THIRD SERIES VOL 65 NUMBER 5 MARCH 1958

Architecture Library

THE JOURNAL OF THE ROYAL INSTITUTE OF BRITISH ARCHITECTS

66 PORTLAND PLACE LONDON W1 · THREE SHILLINGS AND SIXPENCE

Architecture Library



Reproduced from a drawing by the late Percy J. Westwood



ARCHITECT: ELLIS E. SOMAKE, F.R.I.B.A., STAFF ARCHITECT OF MESSRS. DOLCIS LTD.

SHOPFITTERS: MESSRS. COURTNEY, POPE LTD.

An entrance of distinction

. . . distinction given by the uninhibited use of glass, and "Armourplate" Glass Doors . . . individual distinction added by door handles of special design. Such handles should be designed with fittings conforming to the standardised drilling as specified in "Armourplate" Glass Doors literature.

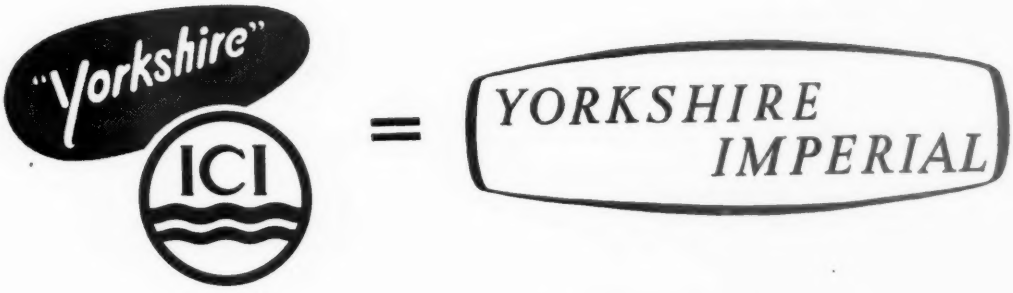
"ARMOURPLATE" *Glass Doors*

made by PILKINGTON BROTHERS LIMITED

CONSULT THE TECHNICAL SALES AND SERVICE DEPARTMENT AT ST HELENS, LANCS. TELEPHONE: ST HELENS 4001; OR SELWYN HOUSE, CLEVELAND ROW, ST JAMES'S, LONDON, SW1. TELEPHONE: WHITEHALL 5672-6

"ARMOURPLATE" *is a registered trade mark of Pilkington Brothers Ltd. Supplies are available through the usual trade channels*

Two famous companies join together



....the Best of both

Yorkshire Imperial Metals Ltd. is the name of the new Company which combines the copper and alloy tube, fittings and plate activities of The Yorkshire Copper Works Ltd. and Imperial Chemical Industries Ltd. and also the plastic tube and plastic fittings interests of The Yorkshire Copper Works Ltd.

The new Company thus draws upon unequalled research, development, technical and production services. The deployment of these in a single enterprise will promote economy, efficiency and service to customers, both large and small, in this country and abroad.

The new Company means to keep its friends, and to make new ones, by offering an unrivalled service in the supply of high quality tubes, plates and fittings, designed and manufactured to suit individual service conditions.

The emphasis on service is all-important—the new Company intends to remain personal in its customer relationship.

This relationship, built up over the years on terms of friendly co-operation, personal contact and real service, is to be cherished. No problem is ever too small to merit the Company's undivided attention—it is here to help, and it is willing and able to help more than ever before.

Whatever your requirements in copper and alloy tubes, plates or fittings, *Yorkshire Imperial* wish to be of service to you in many ways. Whatever the job you want them to do, *Yorkshire Imperial* offer products of a quality which cannot be surpassed anywhere in the world, personal attention to your requirements, fair prices and delivery on time.

specialising in the design and manufacture of non-ferrous tubes, plates and fittings— and plastic tubes and fittings

YORKSHIRE IMPERIAL METALS LIMITED

HEAD OFFICE—LEEDS

Factories :–

YORKSHIRE COPPER WORKS · LEEDS

KIRKBY WORKS · LIVERPOOL

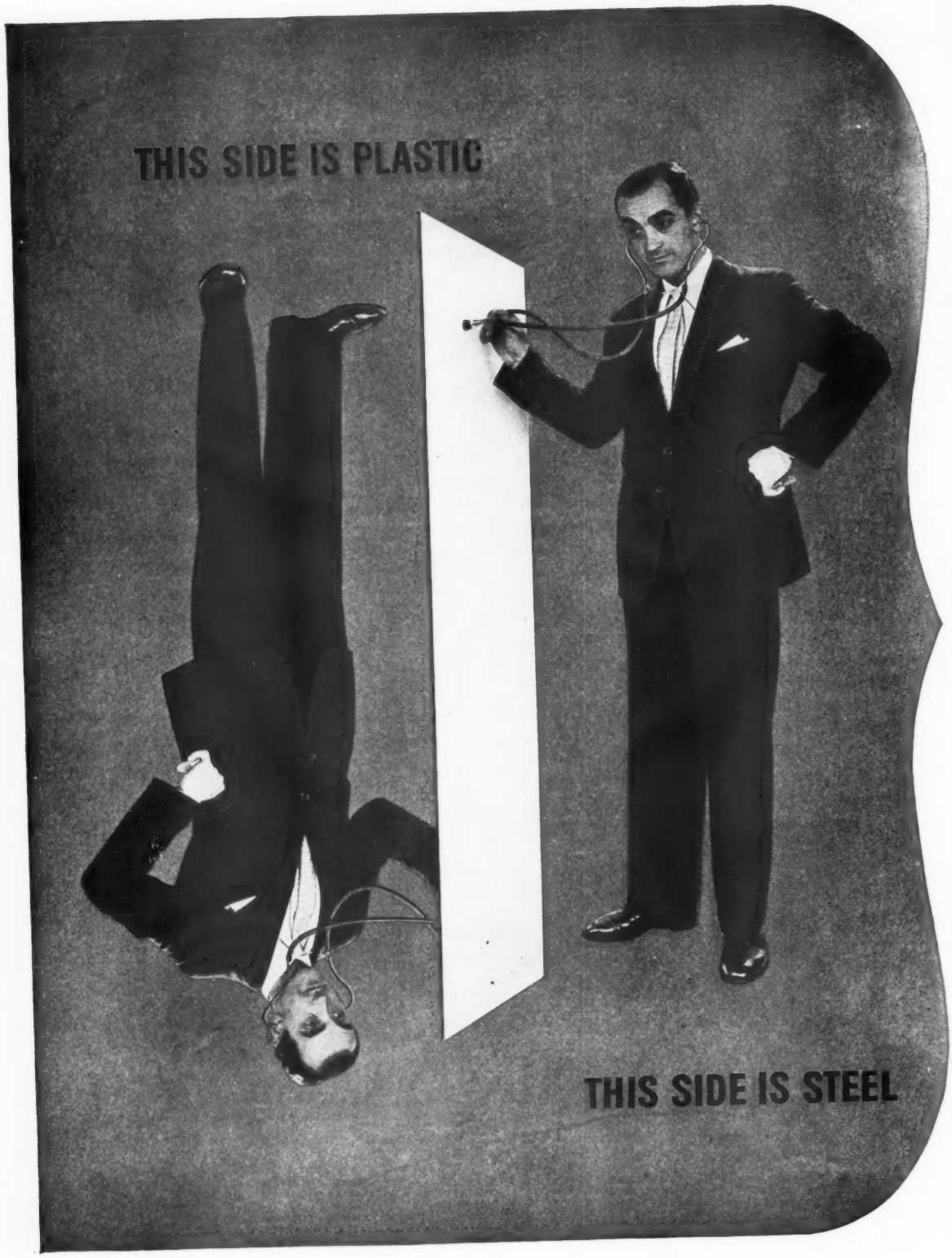
ALLEN EVERITT WORKS · SMETHWICK · STAFFS

FYFFE WORKS · CAROLINA PORT · DUNDEE

LANDORE WORKS · SWANSEA

ANSON UNITS · CASTLEFORD · YORKS

BARRHEAD WORKS · GLASGOW


THIS SIDE IS PLASTIC
THIS SIDE IS STEEL

THE COMBINED RESULT IS



an exciting new material which will revolutionise 1,001 industries

John Summers & Sons Limited are now making what is undoubtedly one of the most remarkable materials ever produced by the steel industry—STELVETITE—a sheet of steel *permanently* covered on one side with a sheet of specially formulated Velbex P.V.C. made by BX Plastics Limited. The plastic is a thick coating, not a film, available in an enormous variety of finishes and colours, and its qualities include durability, resistance to acids, grease, water, hard wear, kicks, scuffs and chipping. *But this is only the beginning.*

Stelvetite can be bent and shaped. *Its bending qualities are remarkable—even through 180 degrees. It can also be sheared, perforated and cut.*

Stelvetite can be deep drawn. *It is suitable for deep drawing and even extra deep drawing with the plastic surface inside or out.*

Stelvetite can be joined. *There are many ways of joining Stelvetite—even a special welding process which does not affect the plastic.*

The industrial possibilities of this revolutionary material are enormous. It is produced by a free enterprise company whose policy is one of continuous venture. Write to: John Summers & Sons Limited, Dept. MRD. 8 Shotton, Chester, for further details of Stelvetite.

MADE IN GREAT BRITAIN BY

John Summers & Sons Ltd

IN CO-OPERATION WITH BX PLASTICS LIMITED

Do you use versatile Fibre Board?



Over 700 million square feet of fibre building boards were used in the United Kingdom in 1957—more than double the amount of four years ago. And consumption is still rising. Here is a success story confirmed by hard facts and figures.

Today there is a wider variety of fibre building boards available for building work of all kinds. Do *you* know all the different types of fibre board? Or the many sizes, thicknesses and surface finishes in which they can be specified? These important questions, and many others besides, are dealt with in a new booklet produced by FIDOR. To obtain a free copy of this guide to the full range of fibre boards normally available from stockists, please send the coupon below.



Have you had a copy of this booklet?

FIDOR

The FIDOR Technical Advisory Service is freely available to architects and builders.

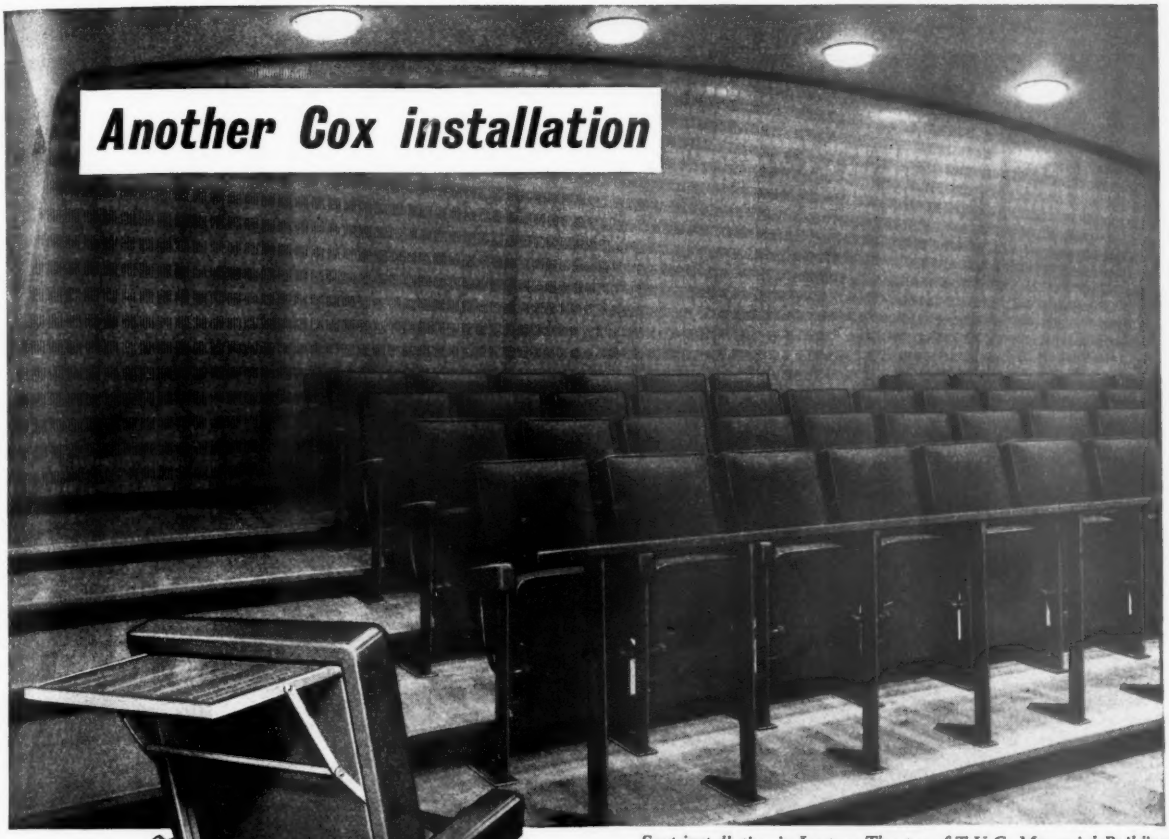
To the FIBRE BUILDING BOARD DEVELOPMENT ORGANISATION
47, Princes Gate, London, S.W.7.

Please send me a free copy of your guide to the availability of fibre building boards.

NAME .....

COMPANY .....

ADDRESS .....(A)



Seat installation in Lecture Theatre of T.U.C. Memorial Building.
Architects: David du R. Aberdeen & Partners, B.A., F.R.I.B.A., A.M.T.P.I.



Style G1312 tip-up seat with added writing flap fitted to the rear of the back, folding flush when not required.

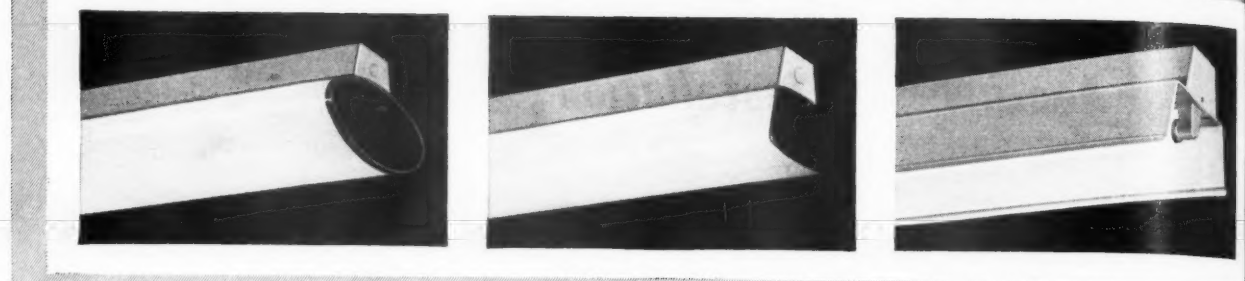
Cox tip-up seating can be found in many of the new educational centres up and down the country. To mention a few:

University College of North Staffs.
Architect: J. A. Pickavance, Esq., F.R.I.B.A.
Leeds University.
Architects: Yorke, Rosenberg & Mardell, FF.R.I.B.A.
Oxford University.
Architects: Lanchester & Lodge, O.B.E., LITT.D., F.R.I.B.A., F.R.I.C.S.
Manchester College of Technology.
Architect: Harry M. Fairhurst, Esq., M.A., A.R.I.B.A.
St. Bartholomew's Hospital Medical College.
Architects: Easton and Robertson FF.R.I.B.A.
University of Reading Lecture Theatre.
Architects: Easton & Robertson.

An illustrated catalogue will be sent on request

Cox TIP-UP AUDITORIUM SEATING

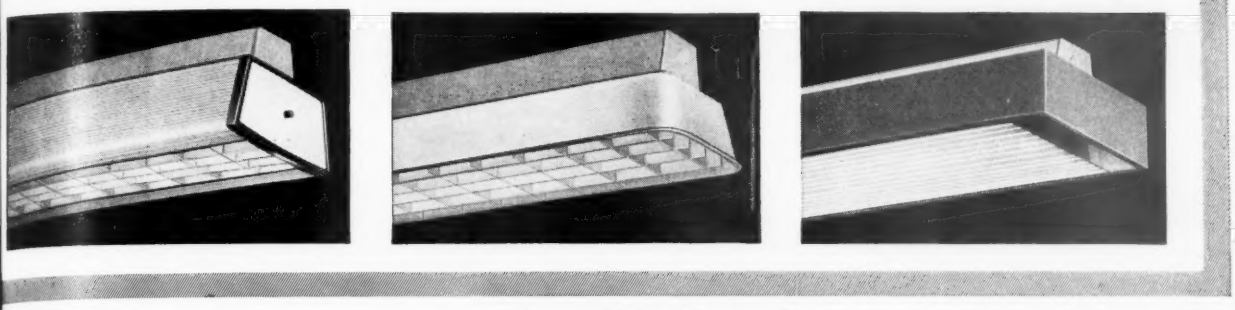
COX & CO. (WATFORD) LTD · WATFORD BY-PASS · WATFORD · HERTS · *Telephone: Watford 5631*



what's so new about fluorescent fittings



THE GENERAL ELECTRIC CO. LTD., MAGNET HOUSE, KINGSWAY, LONDON, W.C.2



these anyway?

Everything is new! *The '101 Range' is an entirely new range of contemporary styled industrial, commercial and decorative fluorescent fittings. The successful result, in fact, of team work between G.E.C. fittings designers and illuminating engineers. Competitively priced—outstandingly modern in conception! NEW also is the introduction of basic channels for single or twin tubes, 1½ ft. to 8 ft. which, with specially designed attachments, form an interchangeable system of great versatility with particularly simple installation and maintenance. It is important that you learn all about this exceptional range—the '101 Range'—of G.E.C. fluorescent fittings, so write for fully descriptive catalogue No. F 4068.*

new adaptability

The G.E.C. '101 Range' sets a *new standard* of adaptability. Using as a basis, channels of common cross section, industrial, commercial and decorative fittings are built without a multitude of small parts. Each is a soundly engineered fitting, of modern appearance and incorporates many aesthetic and mechanical refinements. Installation and maintenance are absolutely simple.

new reflectors

For the first time the industrial user can have vitreous enamelled closed end trough reflectors made from a single pressing, with well-rounded corners and without joints. They are therefore particularly easy to clean. New techniques enable them to be made lighter than previous types and therefore easier to handle and less susceptible to damage.

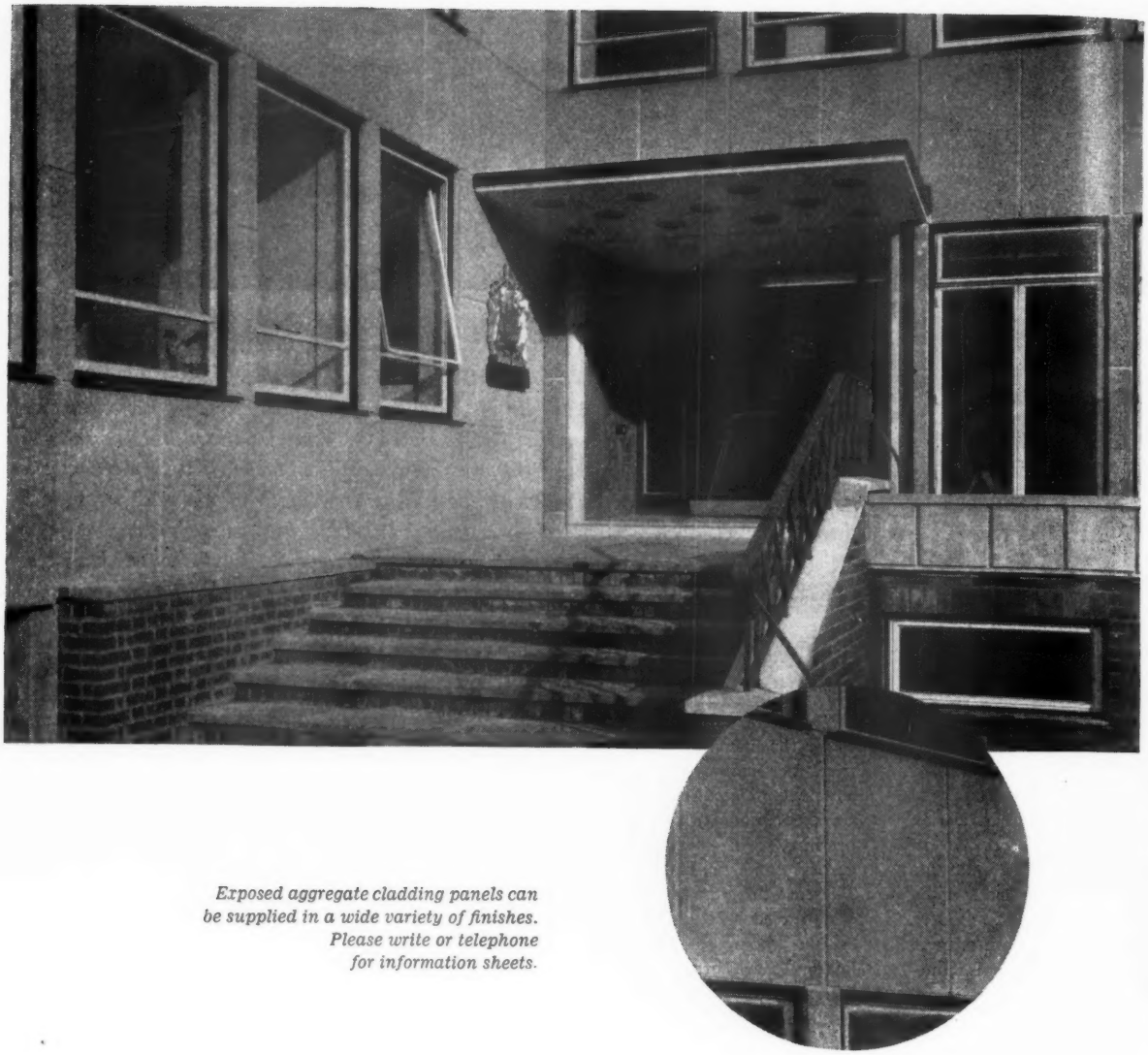
new 8 ft. tubes

Recessed double contact (R.D.C.) caps are fitted to OSRAM 8 ft. 125 w. tubes for use in the '101 Range'. This new cap design protects the tube ends and allows replacement by one person from one ladder position. Recessed double contact caps also provide firm, reliable support and location for these tubes without relying on contact pins or independent clips. This results in easier tube replacement after cleaning or maintenance. Unsightly shadows are reduced, as the new cap gives a smaller "dead region" at tube ends. Osram Guaranteed Tubes, with their freedom from early failures, are recommended for all G.E.C. lighting fittings.

G.E.C. range 101

fluorescent fittings

THE REALITY OF A COMPLETE LIGHTING SERVICE



Exposed aggregate cladding panels can be supplied in a wide variety of finishes. Please write or telephone for information sheets.

The architects specified

Exposed aggregate cladding panels

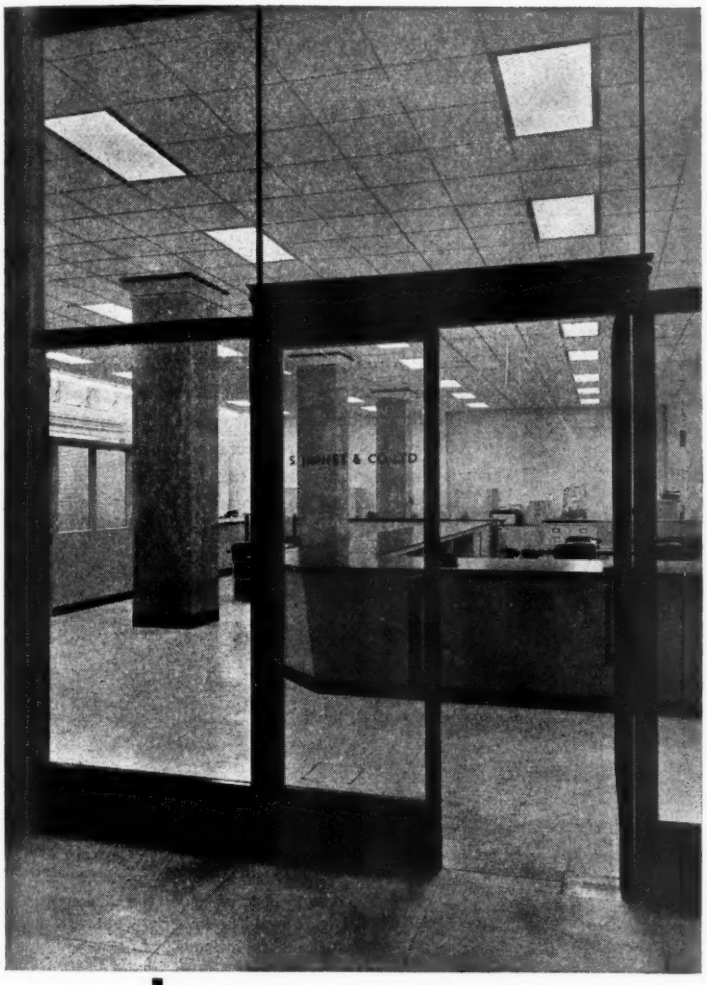
for the new office building
of the National Canning Co. Ltd.
at Whyteleafe, Caterham.
Architects: Stock, Page & Stock.
Contractors: Rush & Tompkins Ltd.

ELLIS
OF LEICESTER

John Ellis & Sons Limited
21 New Walk, Leicester.
Telephone : Leicester 56682
London Office: 29 Dorset Square, N.W. 1.
Tel: AMBassador 1141 & 1142
Birmingham Office : 46 Exchange Buildings,
Stephenson Place, Birmingham 2. Tel : Midland 1757

A·E·I
Lamp and Lighting Co Ltd

'Module' Lighting for a City Banking Hall



In the Banking Hall of the new Charterhouse Investment Trust premises in St. Swithin's Lane, E.C.4, recessed fluorescent lighting has been installed, using some thirty 4ft. x 2ft. 'Module' fittings.

Each 'Module' fitting, recessed into the 'Acousti-Celotex' ceiling, houses four 40-watt fluorescent lamps, flooding the hall with well-diffused light. The fittings are made in standard sizes which correspond exactly to those of standard ceiling tiles and they are available with a choice of diffusing panels or with louvers.

The architects were Messrs. Alan W. Pipe & Sons.

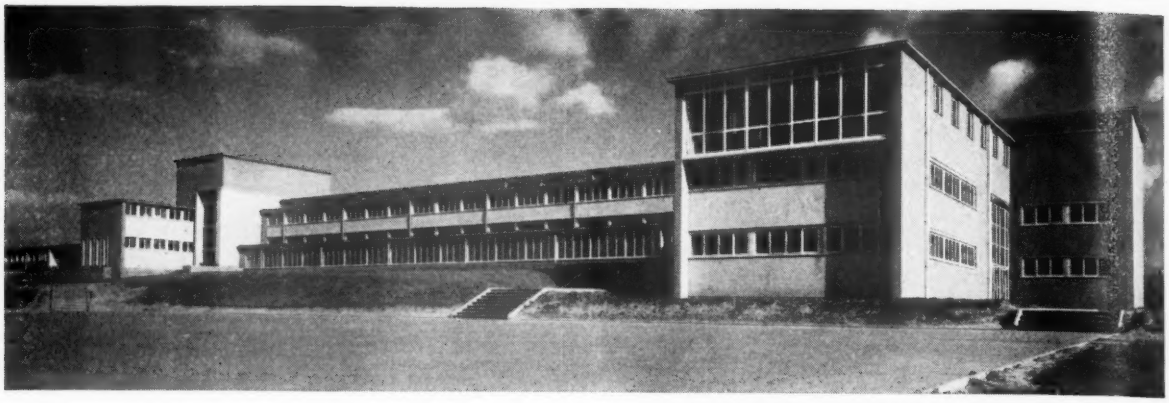
Write for illustrated literature giving full details of the comprehensive range of 'Module' lighting fittings.

Mazda *Lamps stay brighter longer*

A.E.I. LAMP & LIGHTING COMPANY LTD

Publicity Department, 18 Bedford Square, London, W.C.1

M4704



Murray Primary School, East Kilbride

Architects:— East Kilbride Development Corporation
Contractors:— M. McKenzie Ltd.

Braby metal windows

Braby manufacture a wide range of metal windows and doors in steel, aluminium and bronze, designed to meet most architectural requirements or supplied to specification. The illustrations show some recent Braby contracts where our hot-dip galvanized steel windows and Wallstruct aluminium windows were used.





W.D. & H.O. Wills Tobacco Factory, Glasgow

Designed and erected under the direction of the Chief Engineer of The Imperial Tobacco Company (of Gt. Britain and Ireland) Ltd.
Contractors:— Thaw & Campbell Ltd.

Renfrew Air Terminal

Architects:— Rowand Anderson, Kininmonth & Paul
Contractors:— A. A. Stuart & Co. Ltd.

ONE OF THE WIDE RANGE OF
BRABY
PRODUCTS

FREDERICK BRABY & COMPANY LIMITED

ECLIPSE WORKS, PETERSHILL ROAD, GLASGOW, N. TELEPHONE: **SPRINGBURN 5151**

OTHER FACTORIES AT: London Works, Thames Road, **Crayford**, Kent. TELEPHONE: **Bexleyheath 7777**
Havelock Works, Aintree, **Liverpool**, 10. TELEPHONE: Aintree 1721
Ashton Gate Works, **Bristol**, 3. TELEPHONE: Bristol 64041. And **Falkirk**

OTHER OFFICES: 352-364 Euston Road, **London**, N.W.1 (Head Office). TELEPHONE: EUSton 3456
110 Cannon Street, **London**, E.C.4 (Export). TELEPHONE: MANsion House 6034
Queen's Buildings, 10 Royal Avenue, **Belfast**. TELEPHONE: 26509
Palace Street, **Plymouth**. TELEPHONE: 62261

AP245

SAFEGUARD *

THE QUALITY OF MATERIAL AND OF WORKMANSHIP IN

MASTIC ASPHALTE

* ***BY INVITING*** The Council's member companies to tender;
thus ensuring rigid adherence to the appropriate specification and to British Standard Codes of good practice.

* ***BY INCLUDING*** The Council's
recommended form of specification in tender documents.

The recommended form of specification **is given in the Council's brochure "Specifications and Safeguards" and in its technical booklet on the Application of Mastic Asphalte in Roofing, in Tanking and Damp-proof Coursing and in Flooring.**

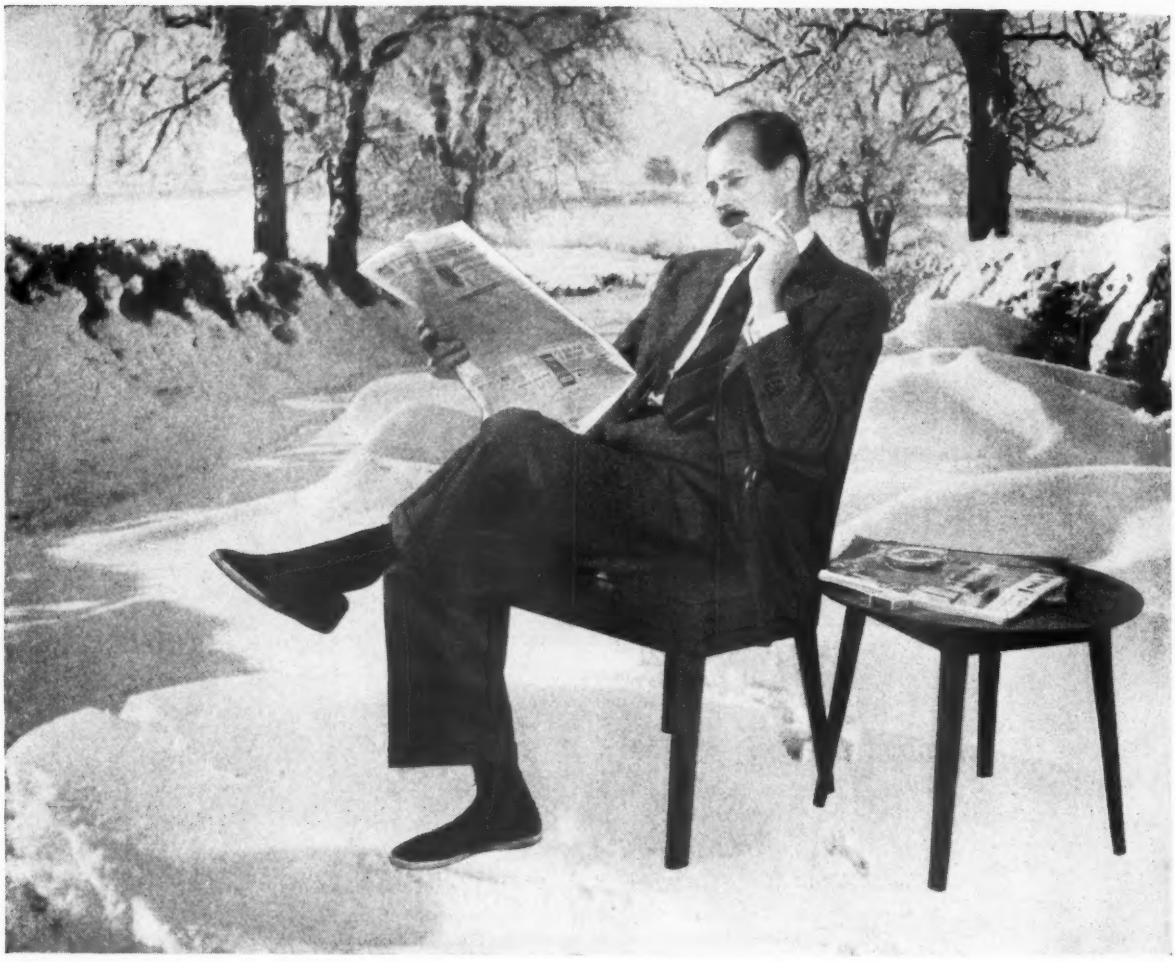
These booklets and the advice of technical officers are available free from

Registered Trade Mark

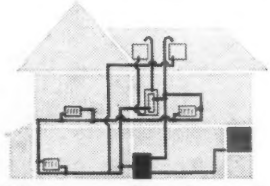
THE NATURAL ASPHALTE MINE-OWNERS & MANUFACTURERS COUNCIL

94-98 PETTY FRANCE, WESTMINSTER, LONDON, S.W.1

TELEPHONE: ABBEY 1010



"Open plan" living demands modern heating



Plan well ahead

with the help of Esso Home Heating Advisory Service. Write to the address below and arrange a meeting.

ESSO HOME HEATING OILS

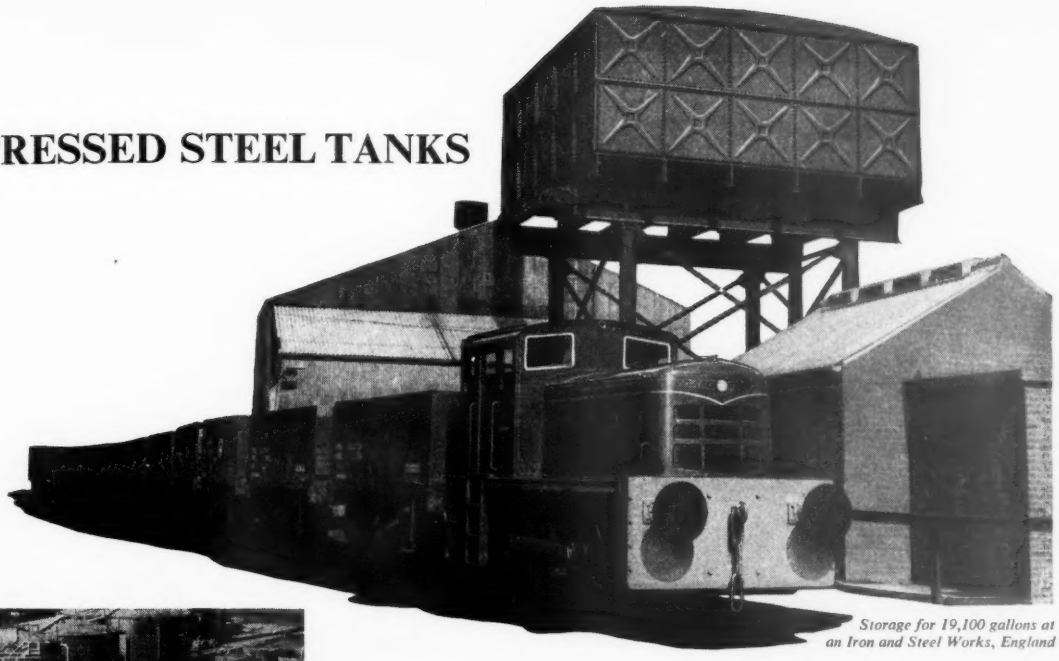
The trend towards "open plan" living requires a heating system that heats an area equivalent to several rooms at once; oil-fired heating does this automatically, economically and with the minimum of attention. Moreover, with a choice of panel-type heating, radiators, skirting-board heating or warm-air circulation, the architect can harmonise the heating system with other features of his design.

Oil-fired central heating works unseen

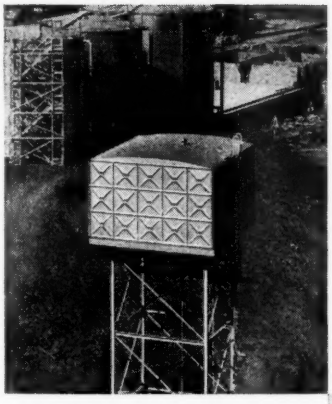
A further advantage of this system is that all the pipes, radiators and equipment can be **out of sight**—leaving the architect completely free to produce a clean plan, unhindered by fireplaces and chimneys. **Consider oil-fired central heating at the earliest stage of your planning.**

HOME HEATING DEPARTMENT, ESSO PETROLEUM CO., LTD., 36 QUEEN ANNE'S GATE, LONDON, S.W.1

PRESSED STEEL TANKS

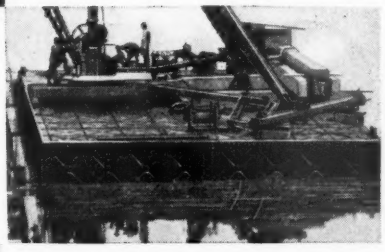


Storage for 19,100 gallons at an Iron and Steel Works, England

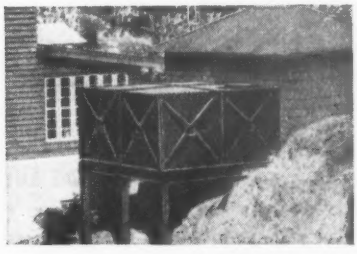


Storage for 34,000 gallons at an Oil Refinery, Aden

The unit method of construction enables Braithwaite Pressed Steel Tanks to be supplied in an unlimited range of capacities and to be conveyed to and erected in positions unsuitable for other forms of construction. In addition to providing adequate liquid reserves for many industrial needs, Braithwaite Tanks are playing an increasing part in bringing essential services and improving the standards of living to established communities and are a means of providing many of the basic amenities where backward areas are being opened up and developed.



A pontoon for civil engineering work made from units built with pressed steel tank plates



Storage for 1,400 gallons at a tea garden, Ceylon

Storage for 65,100 gallons for a rural community, Belgian Congo



BRAITHWAITE & CO. ENGINEERS LIMITED

BRIDGE AND CONSTRUCTIONAL ENGINEERS

LONDON OFFICE: DORLAND HOUSE · REGENT STREET · LONDON SW1 · TELEPHONE WHITEHALL 3993



TRADES UNION CONGRESS MEMORIAL BUILDING, LONDON

Architect: David du R. Aberdeen, B.A. (Arch.), F.R.I.B.A., A.M.T.P.I.

HOPE'S

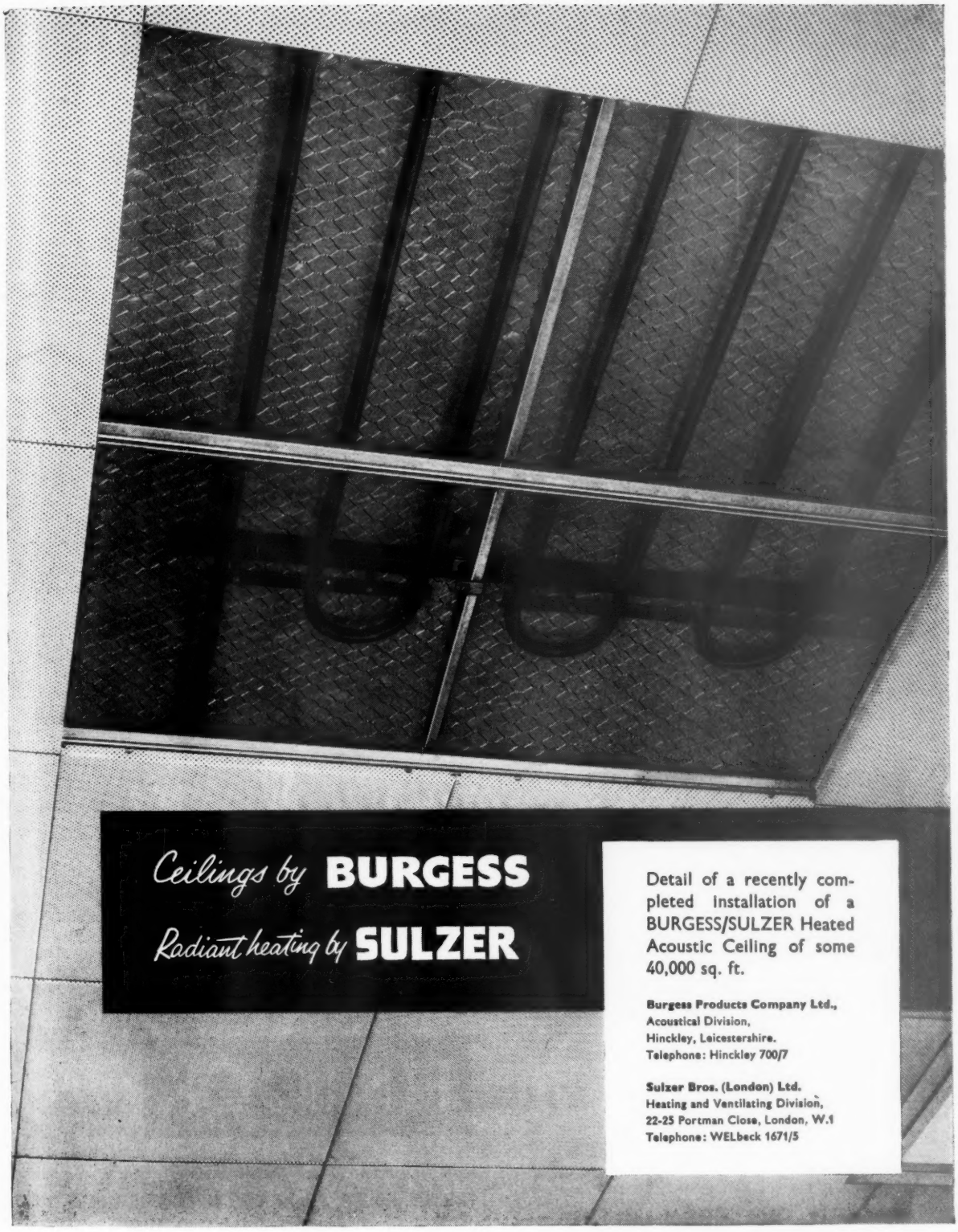
HOT-DIP GALVANIZED STEEL & ALUMINIUM

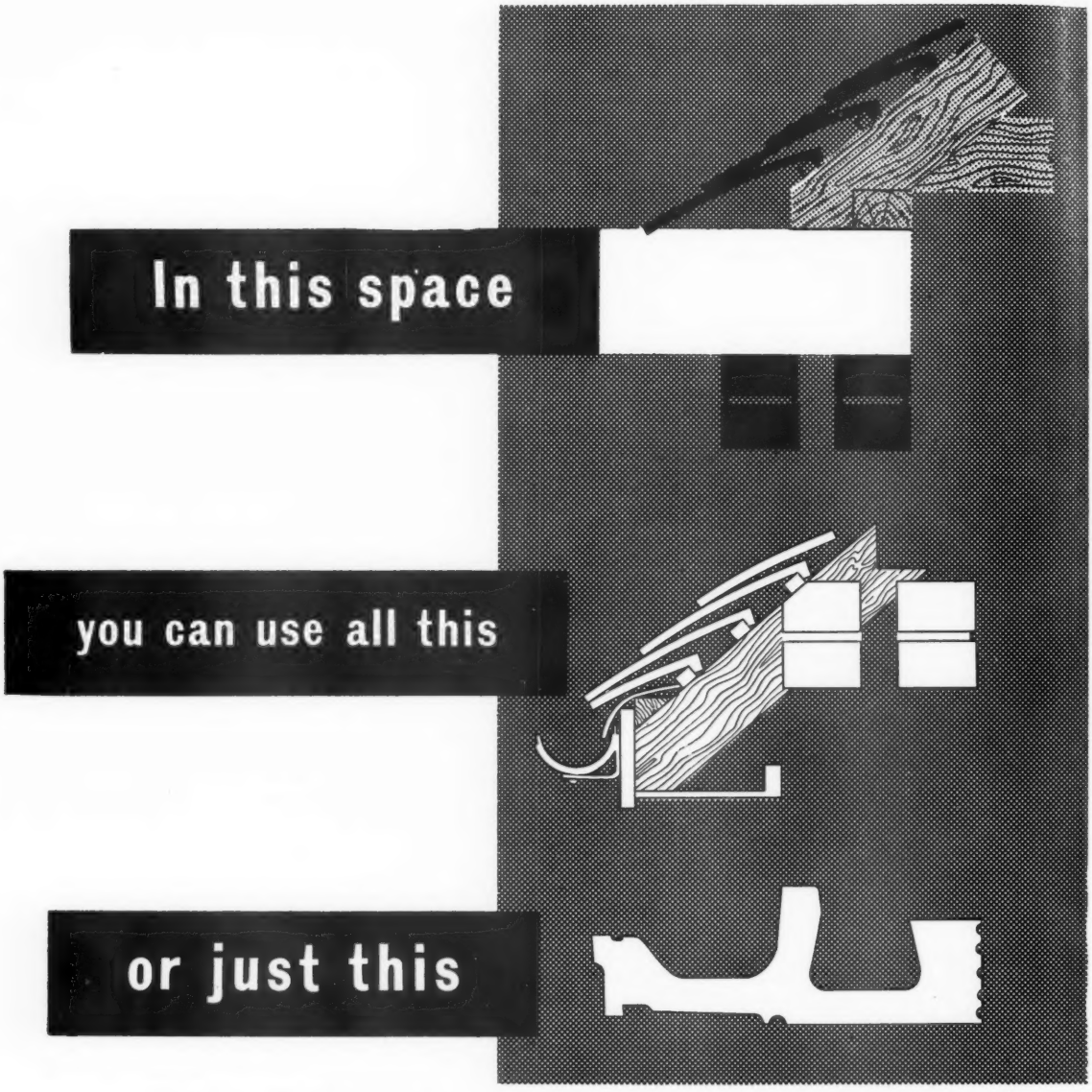
WINDOWS

HENRY HOPE & SONS LTD

Smethwick, Birmingham and 17 Berners Street, London, W.1

MEMBER OF THE METAL WINDOW ASSOCIATION


Ceilings by BURGESS
Radiant heating by SULZER
Detail of a recently completed installation of a BURGESS/SULZER Heated Acoustic Ceiling of some 40,000 sq. ft.
Burgess Products Company Ltd.,
Acoustical Division,
Hinckley, Leicestershire.
Telephone: Hinckley 700/7
Sulzer Bros. (London) Ltd.
Heating and Ventilating Division,
22-25 Portman Close, London, W.1
Telephone: WELbeck 1671/5



"Are costs your problem?" The simplicity of the Finlock Gutter also means economy — a definite reduction in cost. Add a sturdy, durable eaves construction needing neither painting nor maintenance and you will see why in 1957 over 1,800 Architects and Builders decided to—

CUT COSTS THE FINLOCK WAY

Write for copy of Finlock Handbook, giving details of cost saving.

FINLOCK GUTTERS LIMITED | **FINLOCK HOUSE, FRANT RD., TUNBRIDGE WELLS, KENT**
Telephone: Tunbridge Wells 3396/9



Architects: Messrs. Joseph *Consulting Engineers:* Bylander & Waddell *Quantity Surveyors:* Bond, Foster & Partners *Contractors:* Myton Limited

BISON

speeds the erection of

B.P. HOUSE

In twenty-five weeks Concrete Limited have carried out the following work—

Yardage of flooring	*17,290 Bison Reinforced Concrete (a weekly average of 692 yds).*
Encasure	*43,245 cu. ft.*
Staircases	*31 flights*

CONCRETE LIMITED THE LARGEST STRUCTURAL PRECAST CONCRETE MANUFACTURERS IN THE WORLD

SPEED AND STRENGTH

LONDON: Green Lane, Hounslow, Middlesex *Hounslow 2323*
London Sales Office: 16 Northumberland Avenue, London W.C.2 *Whitehall 5504*
LICHFIELD: Dovehouse Fields, Lichfield, Staffs *Lichfield 3555*
CONCRETE (NORTHERN) LIMITED: Stourton, LEEDS 10 *Leeds 75421*
CONCRETE (SCOTLAND) LIMITED: Elmbank Street, GLASGOW *City 3292*

CON 94



He wants to go, she wants to stay. To him it's dull, to her it's fascinating. Yet what's beneath his paws is well worth looking at . . . one of the magnificent TRINASCOLIN Decorative Floors by Limmer & Trinidad.
These TRINASCOLIN Floors are really something. Not only are they attractive to look at (you can get them in a variety of plain and marbled colours), but they are warm and resilient and superbly comfortable to walk on. And they are produced in several thicknesses.
If you feel, as we do, that the floor of a building should be more than merely a place for your feet, why not write for the Technical Booklets on Limmer & Trinidad Decorative Floorings? Come to think of it, why not write for *all* our descriptive booklets?

LIMMER & TRINIDAD

DECORATIVE FLOORING

THE LIMMER & TRINIDAD LAKE ASPHALT COMPANY LIMITED, TRINIDAD LAKE HOUSE, 232-242 VAUXHALL BRIDGE ROAD, LONDON, S.W.1



This well designed nursery is evenly warmed—How?

With Crane Skirting Heating. This has been installed, so that there is even, comfortable radiant heat effective all over the room. And, of course, the heating is inconspicuous, for Crane panels take the place of the normal skirting. So obviously it does not hamper your design but leaves the wall and floor space completely free.

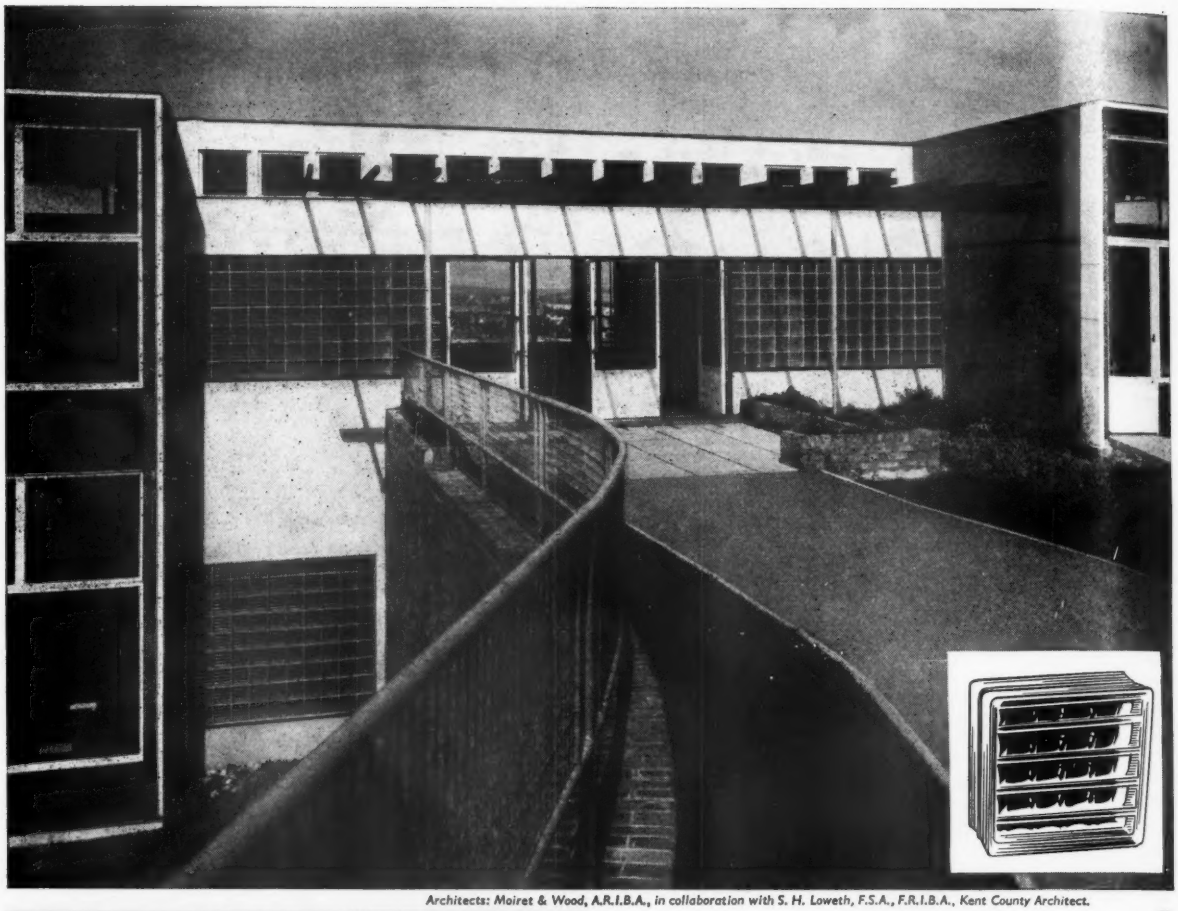
Here are three noteworthy advantages of this latest heating medium. One, you don't have to worry about space for heating units or unsightly lateral pipework—panels complete that part of the circuit. Two, these cast iron panels have real strength—they will not buckle or yield under the most arduous duty. Three, installation is easy—ordering and fixing follows routine procedures.

There are two types of Crane Skirting Heating: Type R (Radiant) in 1′ or 2′ lengths, 6″ or 9″ high. Type RC (Radiant-Convector) in 1′ or 2′ lengths, 9″ high.

Z6

CRANE Skirting heating system

CRANE LTD., 15-16 RED LION COURT, FLEET ST., LONDON, E.C.4. WORKS: IPSWICH · LONDON SHOWROOMS: 118 WIGMORE ST, W.1. AND GREAT WEST ROAD, BRENTFORD, MIDDLESEX. BRANCHES: BIRMINGHAM, BRENTFORD, BRISTOL, GLASGOW, LONDON, MANCHESTER.



Architects: Moiret & Wood, A.R.I.B.A., in collaboration with S. H. Loweth, F.S.A., F.R.I.B.A., Kent County Architect.

PERFECT PARTNERS . . . The versatility of Pilkington's "INSULIGHT" Hollow Glass Blocks makes them one of the most useful structural glass products; and in partnership with normal glazing they can play a big part in lightening interiors. The doors glazed with "ARMOURPLATE" glass to Rochester Delce County Primary School are flanked by panels of type PB3 "INSULIGHT" Hollow Glass Blocks, which lighten the lobbies and give an easily cleaned surface, as well as acting as a decorative foil to the black "VITROLITE" used for infilling between the windows.



'INSULIGHT' HOLLOW GLASS BLOCKS

For further information on the use of glass in building, consult the Technical Sales and Service Department at St. Helens, Lancs. Telephone: St. Helens 4001; or Selwyn House, Cleveland Row, St. James's, London, S.W.1. Telephone: Whitehall 5672-6. Supplies are available through the usual trade channels.

PILKINGTON BROTHERS LIMITED, ST. HELENS, LANCS.

"ARMOURPLATE", "INSULIGHT" and "VITROLITE" are registered trade marks of Pilkington Brothers Limited.

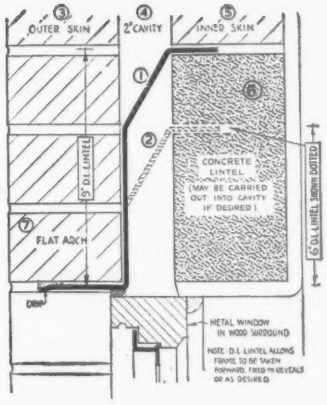


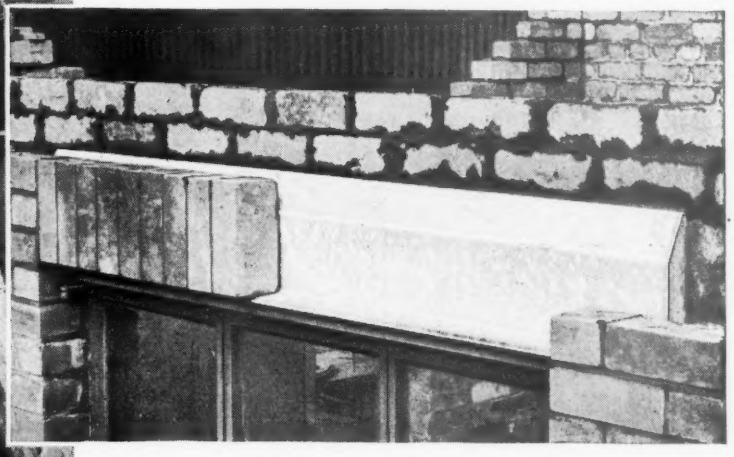
SECTION SHOWING TYPICAL DETAIL

(1) 9 in. Dorman Long Lintel
(2) 6 in. Dorman Long Lintel (shown dotted)
(3) Outer skin
(4) Cavity
(5) Inner skin
(6) Inside concrete lintel (carried out into cavity if so desired)
(7) Flat arch

The wide 'turn-in' of the Dorman Long Lintel allows the cavity to be varied from 2 in. to 2¾ in. in width.

Patent No. 694214





THE DORMAN LONG LINTEL

Combined Angle Arch Support & Dampcourse Tray

IN HOT-DIP GALVANIZED STEEL, FOR USE AT THE HEADS OF OPENINGS IN EXTERNAL CAVITY WALLS

Comes on site to required length ready to fix.
Large saving in site labour costs.
Cannot be damaged in cavity cleaning.

THE DORMAN LONG LINTEL has only to be placed into position over the head of the opening, and without delay the work carries on.

Prices and details from :
DORMAN LONG *(Steel)* LTD., Sheet Dept., Middlesbrough or from district offices at London, Birmingham, Manchester, Newcastle, Belfast, Glasgow.

DORMAN LONG



- The latest development in Air Conditioning
- Individual temperature control in every room
- A centralised plant silently diffusing clean air, conditioned for winter or summer
- New pressure conduit distribution system minimises duct space requirements
- Equally applicable to new or old constructions

Carrier *Conduit* **WEATHERMASTER** *System*
REGD.

CARRIER ENGINEERING COMPANY LTD. 24 Buckingham Gate, Westminster, S.W.1

The Pioneers of Air Conditioning

A solid case for a sliding principle





'A solid has three dimensions.'
'*Elementary*.'
'We have a solid reputation.'
'*Proof, please*?'
'Donkeys' years ago, when ye olde wooden mullions
first slid-and-folded along ye brazen track, Esavian
experience began. No similar reputation has such *length*.'
'*You're just shooting an imaginary line*.'
'From Alaska to New Zealand, from Cape Town to China,
the Esavian principle has proved invaluable.
There's width for you—*world-width*.'
'*Your reputation, if you'll forgive the pun, still looks a little "plane"*.'
'When I draw your attention to our fourfold policy of exhaustive
research, modern design, impeccable manufacture and painstaking
service—you'll see our reputation has considerable *height*. Q.E.D.'
'*I am, as they say, sold. Please supply a gross of
your folding and sliding portholes*.'
He had us there! But we can provide doors, windows,
partitions and screens of amazing variety.
Aircraft hangars, factories, garages, fire-stations, offices,
private houses . . . *most* places are all the better for Esavian.
Drop us a line and see if we can help *you*.

The ESAVIAN principle

Esavian Limited, Esavian Works, Stevenage, Herts. Tel: Stevenage 500. • Esavian Works, Carfin, Lanarks. Tel: Holytown 391

Inherent fire resistance at 4d* per sq. ft.

There is no safer method of lining a building at a comparable cost than with plasterboard. The core of all plasterboard is gypsum which contains about 20% combined water — an inherent protection in the event of fire.

Plasterboard has other advantages to the builder and the building's owners. Easy to handle, strong, safe, simple to erect and decorate, plasterboard has everything to recommend it *— and it's British throughout.*

SAFE, LOW COST THERMAL INSULATION

Insulating Gypsum Plasterboard provides thermal insulation, without fire hazard. At 5d.† per sq. ft. for thermal insulation AND fire protection it saves money. Insulating Gypsum Plasterboard conforms on both faces to B.S.476, Class I, *and does not require any additional treatment involving further cost.*

* *Approximate price of Plain Plasterboard*

† *Approximate price of Insulating Plasterboard*

It's the core that counts . . .

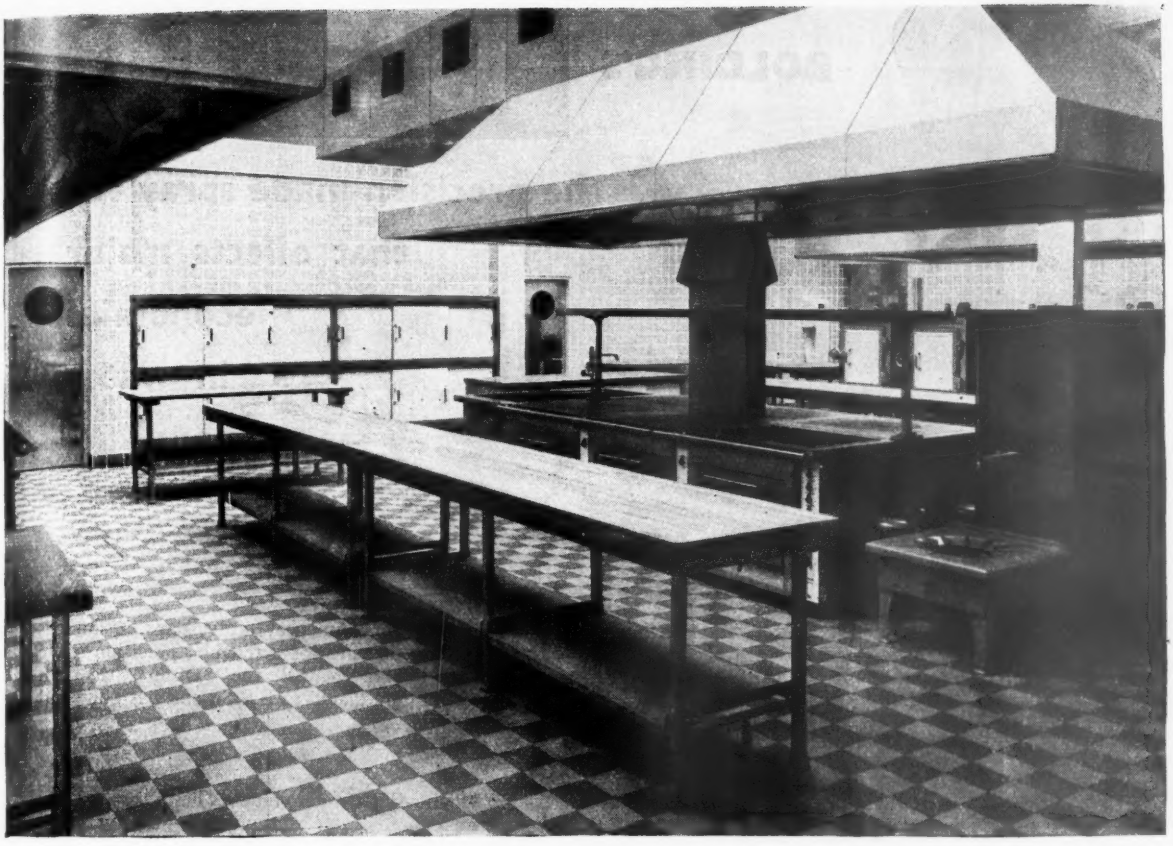
THE INCOMBUSTIBLE GYPSUM CORE OF PLASTERBOARD

FOR THE FACTS write today for free illustrated brochure
THE GYPSUM PLASTERBOARD DEVELOPMENT ASSOCIATION, G.P.O. BOX 321, LONDON W.1



Visit Stand M.6
Thermal Insulation Exhibition
Earls Court April 14-19, 1958

GPA 2



CERAMIC TILES — THE OBVIOUS CHOICE

With their architect the Molins Machine Co. Buckinghamshire decided that there was no other surface to compare with Ceramic tiles for their new kitchen at Saunderton.
The surface that is so essentially hygienic and impervious to dirt, stains and steam. A mere wipe and Ceramic tiles become sparkling and bright . . . more important still Ceramic tiles reduce maintenance costs to a minimum.

Architects: Brocklehurst, Cooper & Williamson
Chartered Architects.
Builders: T. H. Sawyer & Son, Lewisham.
Tile Fixers: Carter (Brockley) Ltd., London S.E.4.

Ceramic TILES

Glazed & Floor Tile Manufacturers' Association · Federation House · Stoke-on-Trent



BOLDING'S DUFLO

The precision-made spray tap that effects major economies in water and fuel

A MAJOR ADVANCE

The introduction of the "Duflo" is a major advance in spray tap systems. "Duflo" meets effectively and efficiently the increasing demand for a reliable, precision-made spray tap for lavatory basin use. Accepted by the M.W.B., the "Duflo" has been specially constructed for heavy duty, is Chromium Plated to B.S.S., and has body and outlet constructed in one piece.

A TREMENDOUS ECONOMY

The "Duflo" incorporates a restrictor which adjusts water volume. Tests have proved that the installation of "Duflo" greatly reduces water consumption—the "Duflo" consumption being about a quarter of that of a standard ½" pillar tap. This means a considerable saving in both water storage and fuel.

FINGER-TIP TEMPERATURE CONTROL

"Duflo" has been designed to provide a water supply at temperatures ranging from cold to hot. Cold, tepid or hot water is immediately obtained at a turn of the tap head. The convenience and economy of Duflo are such as to out-date conventional tap systems. The mechanism is based on the principle of Bolding's 'Belvedere' shower valve.

1. RETAINING SCREW (To remove head)
2. RESTRICTOR (For spray adjustment)
3. "HOT" PLUNGER (Short)
4. "COLD" PLUNGER (Long)
5. "HOT" SUPPLY TUBE
6. "COLD" SUPPLY TUBE

* *Write today for illustrated leaflet.—*

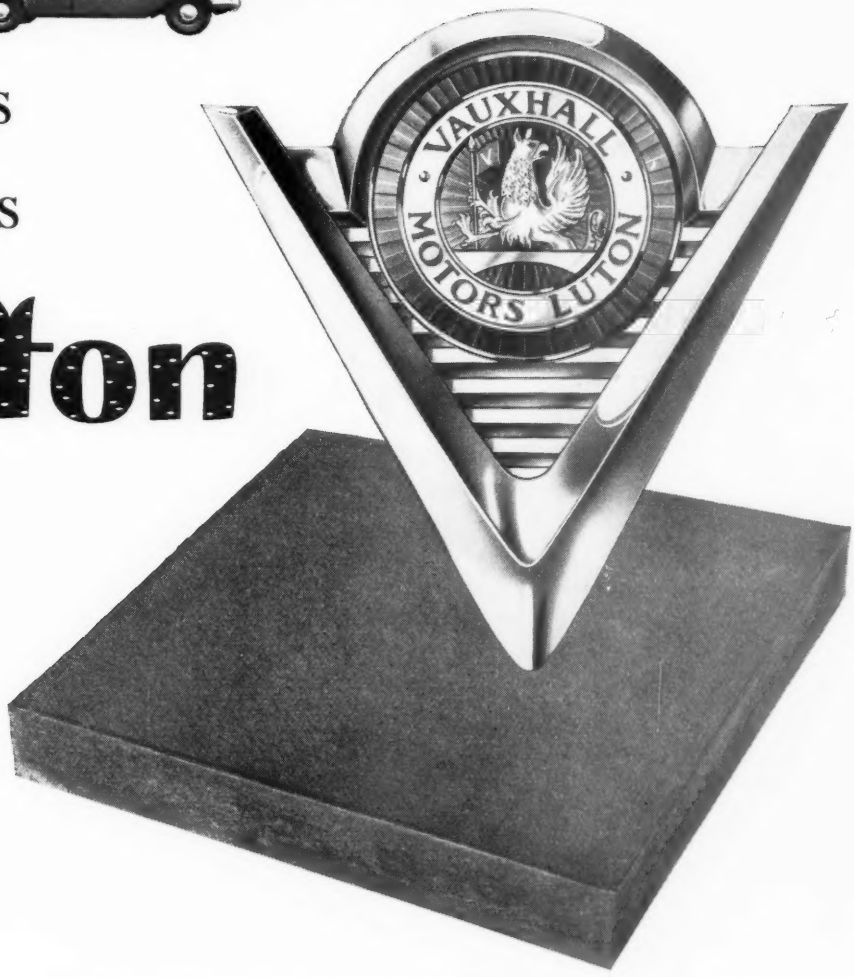
Manufactured by **JOHN BOLDING & SONS LIMITED**

GROSVENOR WORKS: Davies Street, London, W.1. Telephone: MAYfair 6617

AP58



Success chooses triton



TRITON Quarries were used solely in the construction of some of the Acid Tanks at the Dunstable Works of Vauxhall Motors Ltd.
Architects: Messrs. Howard, Souster & Fairbairn, 81 Piccadilly, London W.1
Quarries laid by: Messrs. Acalor (1948) Ltd., Kelvin Way, Crawley, Sussex

Full details, samples and prices sent on request. Specimens of Wheatly burnt clay products may be seen at the Building Centre, London. They include Single-lap Roofing Tiles, Ridge Tiles (blue and red), Floor Quarries, Air Bricks and Briquette Fireplaces.

WHEATLY



triton

WHEATLY & COMPANY LIMITED

Springfield Tileries, Trent Vale, Stoke-on-Trent. *Telephone:* Newcastle (*Staffs*) 66251. *Telegrams:* Wheatly, Trent Vale

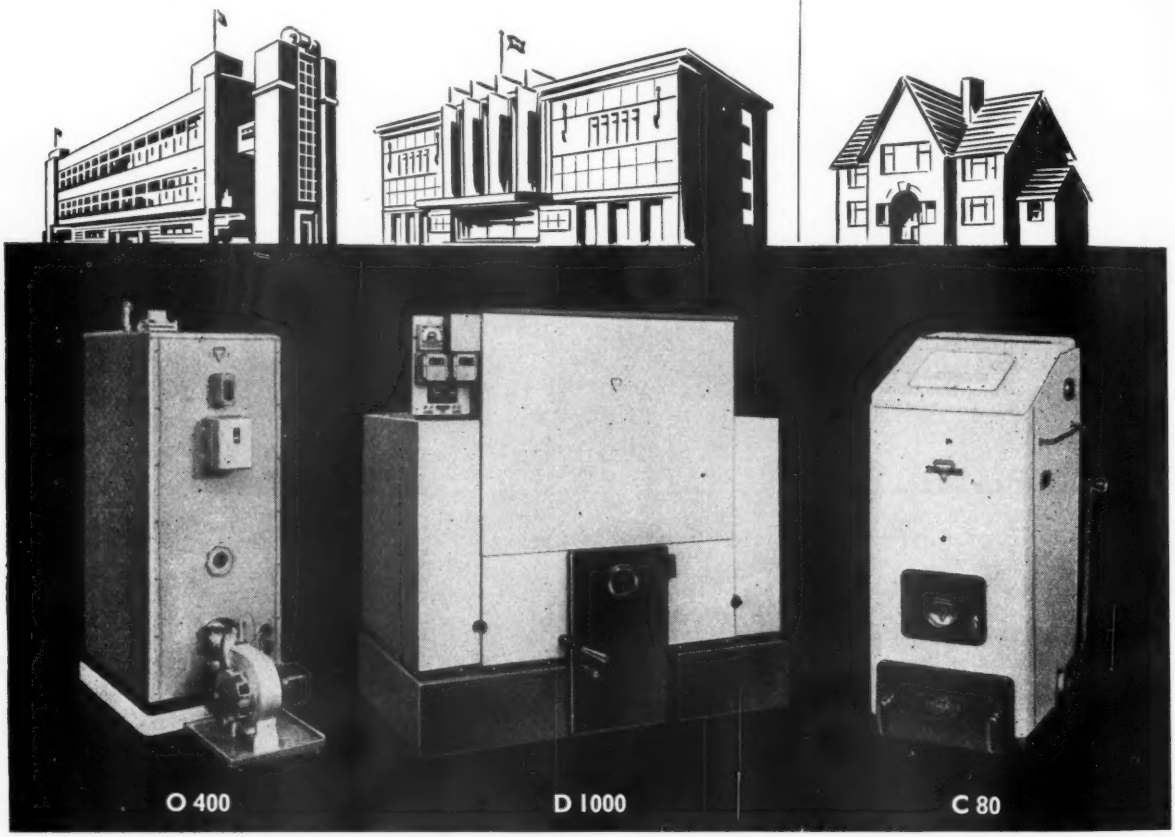
WH85

Efficient Heating

by Trianco Boilers - Solid Fuel or Oil Fired

For Home, Office or Factory ● Thermostatic Control ● Superb Efficiency ● Great Economy ● Advanced Design ● Low Running Costs ● Expert Service.

FOR EVERY KIND OF BUILDING



Trianco oil fired boilers are available in various capacities from 400,000 B.t.u. for use with various types of oil fuel. Efficiency rating is over 80% with completely automatic trouble free operation.

Trianco solid fuel boilers for industrial use range from 250,000 B.t.u. to 1½ million B.t.u. Successful installations throughout Britain prove the efficiency and low running costs of Trianco boilers.

Trianco domestic solid fuel boilers provide central heating and constant hot water and range from 50,000 B.t.u. to 180,000 B.t.u. Gravity feed thermostatic control and simple declinkering arrangements make Trianco the automatic choice.

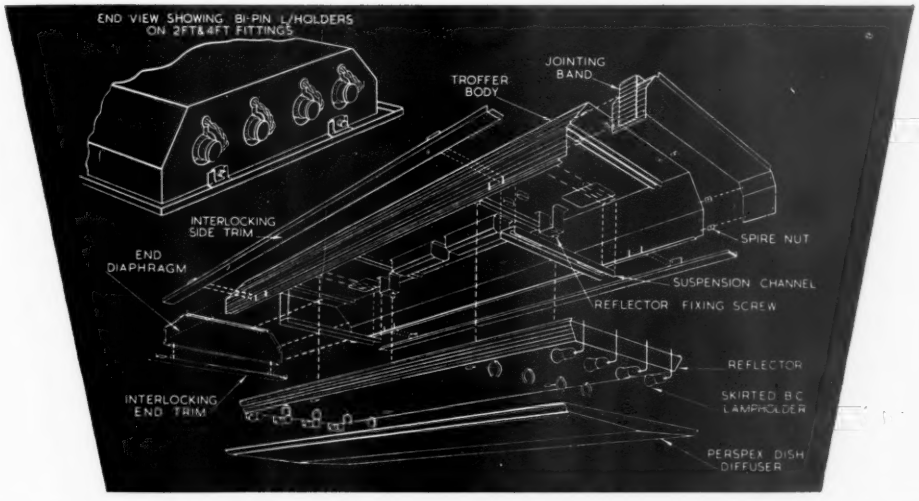
TRIANCO
automatic boilers

Brochures on request: **Stand No. 82 — Ideal Home Exhibition, Grand Hall, Olympia**

TRIANCO LIMITED · IMBER COURT · EAST MOLESEY · SURREY · EMBERBROOK 3300



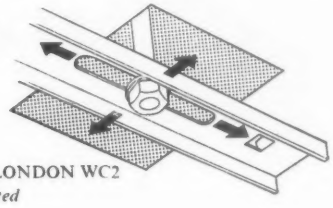
LIGHTING THE MODULAR CEILING



Atlas Modulite fluorescent fittings are designed to meet the conditions imposed by the lighting of suspended acoustic ceilings based on the 2ft. and 1ft. modular grids. Clean, simple design ensures that an unbroken ceiling line can be preserved. Within the module, fittings can be mounted singly or in continuous lines. Special design features facilitate installation, and wiring can be completed before false ceilings are placed in position; access to tubes and gear for maintenance is quick and easy. Two series are available—Atlas HM fittings for the 2ft. grid and Atlas GT fittings for the 1ft. grid.

Both HM and GT series fittings fit snugly between joists and, once fitted, diffusers, tubes and reflector plates can be removed from below for maintenance. A special feature of the HM(2ft.) series is the suspension which is adjustable to compensate for errors in siting the down drop. *(See below).*

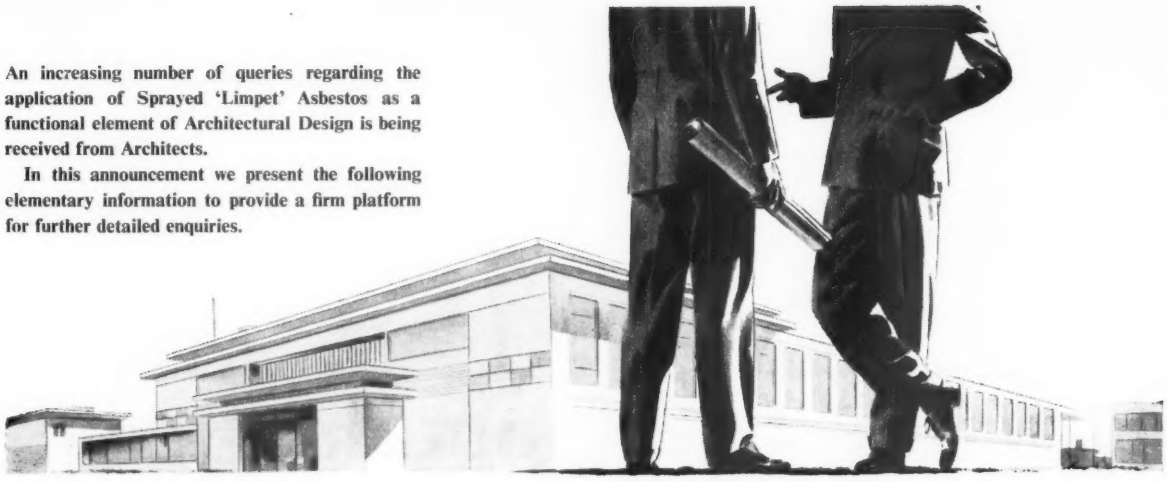
ATLAS 'MODULITE'
Fluorescent Fittings



ATLAS LIGHTING LIMITED · 233 SHAFTESBURY AVENUE LONDON WC2
A subsidiary company of Thorn Electrical Industries Limited

An increasing number of queries regarding the application of Sprayed 'Limpet' Asbestos as a functional element of Architectural Design is being received from Architects.

In this announcement we present the following elementary information to provide a firm platform for further detailed enquiries.



an architect asks questions about Sprayed 'Limpet' Asbestos by NEWALLS

REGD.



"What do you consider is the major advantage of Sprayed 'Limpet' Asbestos?"

Probably the most important element is that the 'Limpet' process gives intimate surface contact, sealing all joints, covering rivets, irregularities and protrusions in a continuous coat that entirely eliminates air spaces—a significant factor in itself.



"I understand that Sprayed 'Limpet' Asbestos has two insulating properties?"

Correct. In addition to providing a high degree of thermal insulation, it is an excellent material for absorbing sound. Indeed, many firms have specified the process for correcting acoustic distortions alone.



"Being largely Asbestos, I suppose the process gives a measure of fire protection?"

Most certainly ! Again, it is often used solely because of its fireproofing properties. In fact, this method was the first to be approved for Class A fireproofing of ships under the 1948 Convention.



"Being porous, isn't the treatment liable to premature rotting where condensation exists?"

On the contrary. Asbestos is chemically inert. It is rotproof, verminproof and undamaged by water. Condensation is diffused preventing dripping and allowing for speedy re-evaporation to the atmosphere from the warm surface of the coating.



"It seems too versatile for words. It's a Thermal and Acoustic Insulant, rotproof and verminproof, fire-resistant, prevents condensation, resists vibration... anything else?"

Well. It has been used extensively purely as an anti-corrosion measure on metals subject to severe corrosive conditions, but we'd have to know the particular application you had in mind to give our full recommendations.



"Naturally. And if we did want Thermal and Acoustic Insulation—and Fire protection in one coating—I suppose it would cost the earth?"

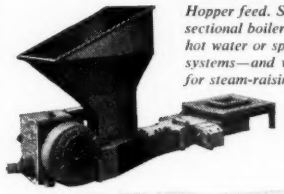
Frankly—no. You see, the erection of timber grounds is not necessary. In application there is no cutting to waste, and the density and thickness is controllable to a very fine degree by highly efficient operators. It compares favourably with conventional insulation methods and materials.

Sprayed 'Limpet' Asbestos is a particularly suitable multi-purpose insulant in schools, public buildings and the like. Our considerable experience in this field will be gladly placed at your disposal.

Newalls

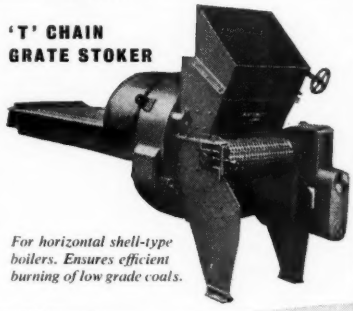
NEWALLS INSULATION CO. LTD.
HEAD OFFICE: WASHINGTON, CO. DURHAM
A member of the TURNER & NEWALL ORGANISATION
Offices and Depots at LONDON, GLASGOW, MANCHESTER, NEWCASTLE UPON TYNE, BIRMINGHAM, BELFAST, BRISTOL & CARDIFF

RILEY ROBOT

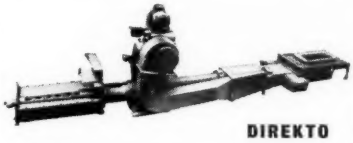


Hopper feed. Suitable for sectional boilers in domestic hot water or space heating systems—and vertical boilers for steam-raising.

'T' CHAIN GRATE STOKER



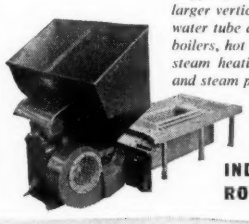
For horizontal shell-type boilers. Ensures efficient burning of low grade coals.



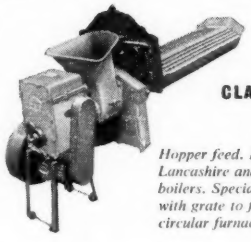
DIREKTO

Bunker feed. For sectional boilers in domestic hot water and space heating systems. Also for vertical boilers used in steam-raising. Feeds direct from bunker to boiler below floor level.

Hopper feed. For the larger vertical boilers, water tube and locomotive boilers, hot water and steam heating systems and steam processes.



INDUSTRIAL ROBOT



CLASS 'B'

Hopper feed. For Cornish, Lancashire and Economic boilers. Specially designed with grate to fit into circular furnace flues.

IT IS AN OFFENCE TO EMIT DARK SMOKE

Under the Clean Air Act it is now an offence to emit dark smoke. The problem of ensuring smokeless combustion within the meaning of the Act without costly conversions can be solved by the installation of Riley Chain Grate or Under-feed Mechanical Stokers. Write for full technical information.

all these RILEY STOKERS provide smokeless combustion from small bituminous coal

RILEY (IC) PRODUCTS LIMITED

Mechanical Stokers · Syntron Electric Vibratory Equipment

A member of the International Combustion Organisation

NINETEEN WOBURN PLACE · LONDON WC1 · TERMINUS 2622

TGA R66

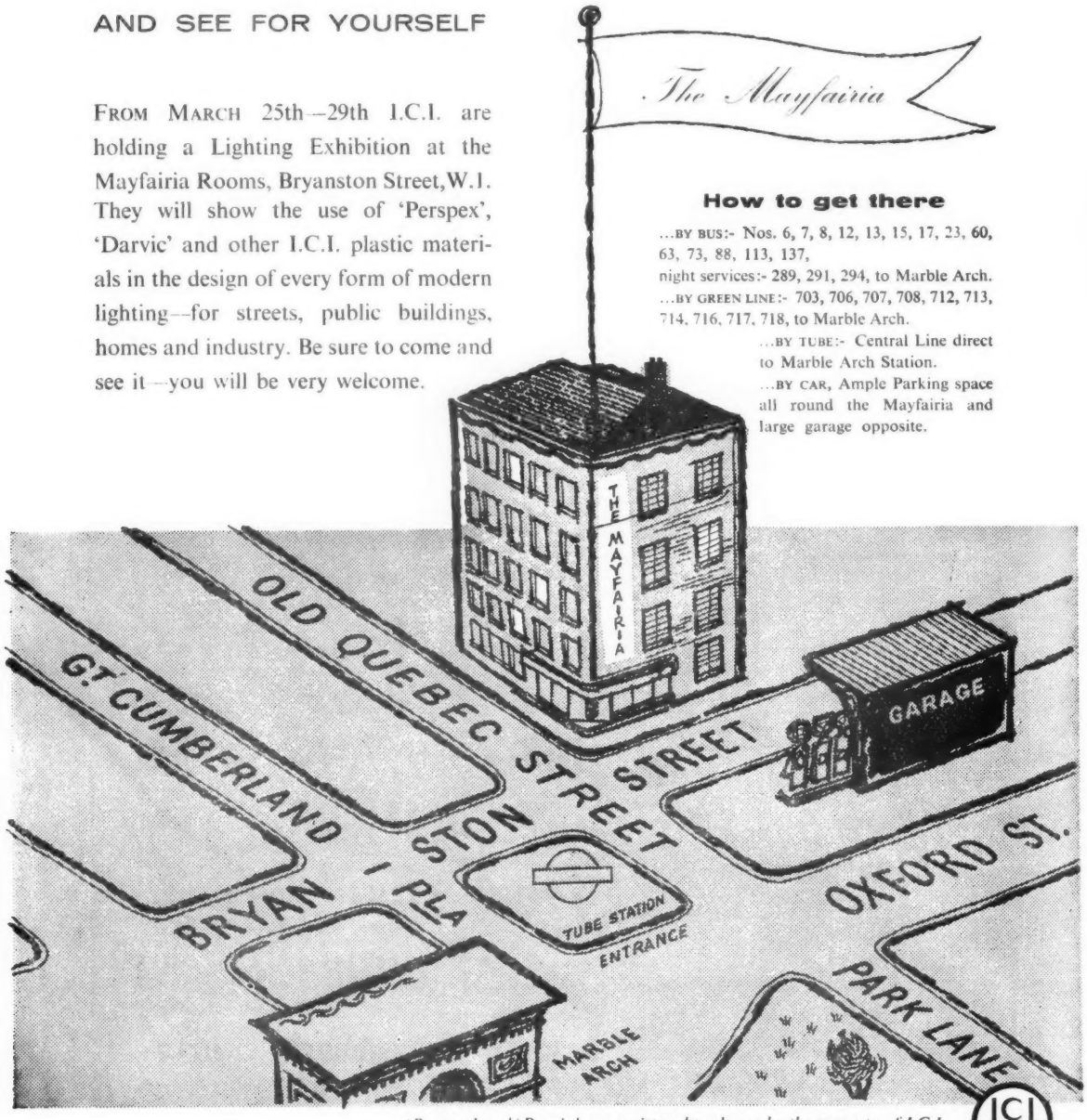
How will you see tomorrow?

COME TO THE I.C.I. LIGHTING EXHIBITION AT

THE MAYFAIRIA ROOMS, BRYANSTON STREET, W.1.

AND SEE FOR YOURSELF

FROM MARCH 25th—29th I.C.I. are holding a Lighting Exhibition at the Mayfairia Rooms, Bryanston Street, W.1. They will show the use of 'Perspex', 'Darvic' and other I.C.I. plastic materials in the design of every form of modern lighting—for streets, public buildings, homes and industry. Be sure to come and see it—you will be very welcome.



How to get there

...BY BUS:- Nos. 6, 7, 8, 12, 13, 15, 17, 23, 60, 63, 73, 88, 113, 137,
night services:- 289, 291, 294, to Marble Arch.
...BY GREEN LINE:- 703, 706, 707, 708, 712, 713, 714, 716, 717, 718, to Marble Arch.
...BY TUBE:- Central Line direct to Marble Arch Station.
...BY CAR, Ample Parking space all round the Mayfairia and large garage opposite.

'Perspex' and 'Darvic' are registered trade marks the property of I.C.I.

FP.58

IMPERIAL CHEMICAL INDUSTRIES LIMITED · LONDON · S.W.1



Architect: Frank Scarlett, B.A., F.R.I.B.A.

STRAMIT partitions

for quieter, more attractive offices

Compactom Ltd., the partition specialists, erected these good-looking partitions in the offices of the Northern Aluminium Company in Bush House, London. They used hardboard-faced Stramit slabs of standard grade for the job. There were good reasons for this. Stramit partitions—so easy to erect and with such remarkable sound-deadening properties—commend themselves to architects and contractors alike. As the Stramit partitions illustrated above, in flush 'V' joints and aluminium framing, are faced with hardboard, they offer an exceptionally good decoration surface. Stramit of standard grade, however, cheerfully accepts paint and plaster direct, if desired. It is also available faced with fabric in a variety of attractive colours and designs.

What is Stramit?

Stramit is a low-cost, dry-construction material made of scientifically-compressed straw. It combines great strength and rigidity with exceptional values of thermal insulation and sound reduction. And official tests (reports available on request) prove that it resists fire resolutely.

Stramit of standard grade costs from 1/– per square foot, including delivery. Also available—Roofing grade, Low-Density grade (for non-load-bearing thermal insulation) and a special asbestos facing which gives a Class 1 rating for spread of flame.

STOCK SIZES: 4 ft. wide · 6, 8, 9, 10 and 12 ft. long. SPECIAL SIZES: made to order.

FILL THIS IN AND POST IT NOW!

PLEASE SEND ME WITHOUT OBLIGATION FULL DETAILS OF STRAMIT PARTITIONING

Name .....

Address .....

.....

For the attention of .....

RIBA

STRAMIT

— THE TWO-INCH THICK

BUILDING SLABS

STRAMIT BOARDS LTD · *COWLEY PEACHEY, UXBRIDGE, MIDDLESEX · Telephone: West Drayton 3751*



Architects: Messrs. Farmer and Dark, F/F.R.I.B.A.

New Central Research Laboratories and Engineering Division for The Bowater Paper Corporation Limited

Part of the extensive developments on the Thames Mill Site at Northfleet, Kent, of The Bowater Paper Corporation Limited, are the Central Research Laboratories and Engineering Division blocks. These have a combined floor space of 55,000 sq. ft. served by a common entrance hall (illustrated). The structures are based on a module of 3 ft. 4 in. in all planes, with a framework of light welded steel and lightweight metal decking roof. Walls are almost entirely of glass with stainless steel trimming, and colour variation is obtained by asbestos panels set behind. Floors are in 2-in. precast concrete and acoustic ceilings accommodate recessed lighting, heating and ventilation grills. The colourful interior decoration combines individuality with breadth of design, while the exterior preserves the unity of the neighbouring production buildings.

With the experience of the past

CUBITTS

build for the future

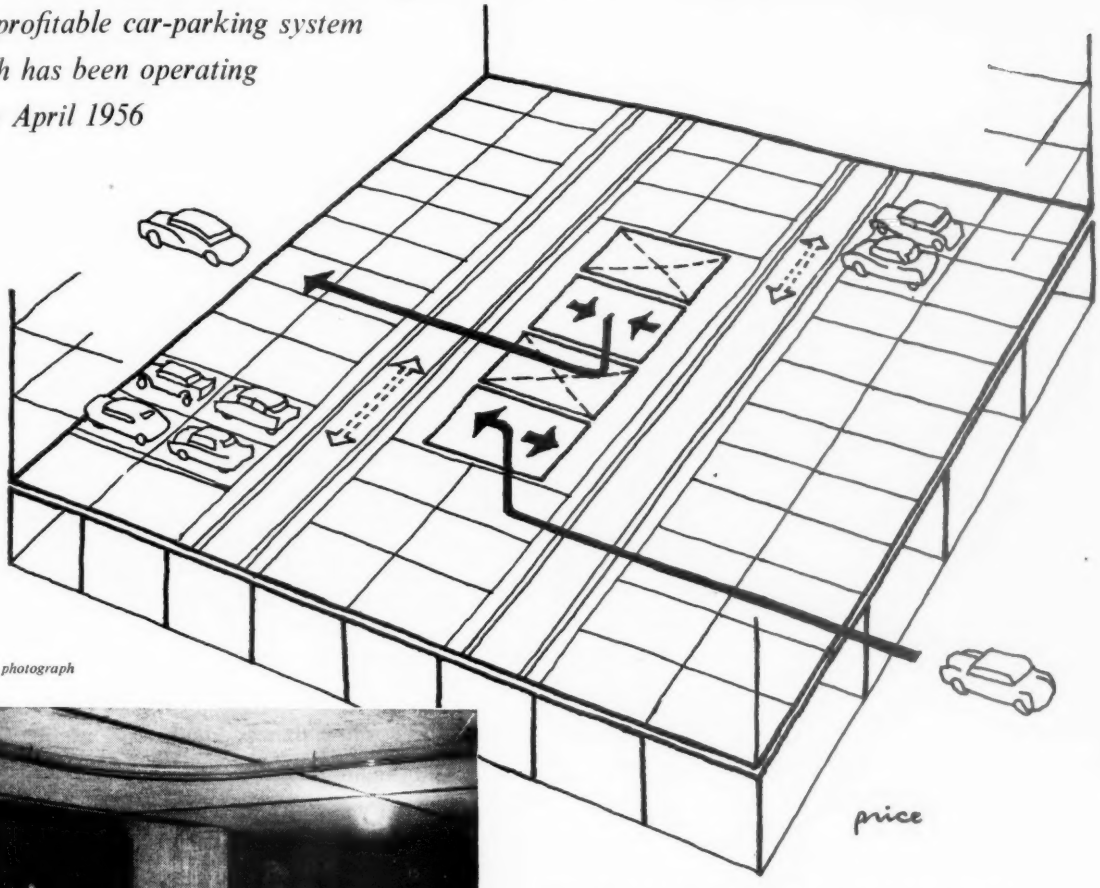
ENGLAND · SCOTLAND · OVERSEAS

HOLLAND & HANNEN AND CUBITTS LIMITED · ONE QUEEN ANNE'S GATE · WESTMINSTER · SW1

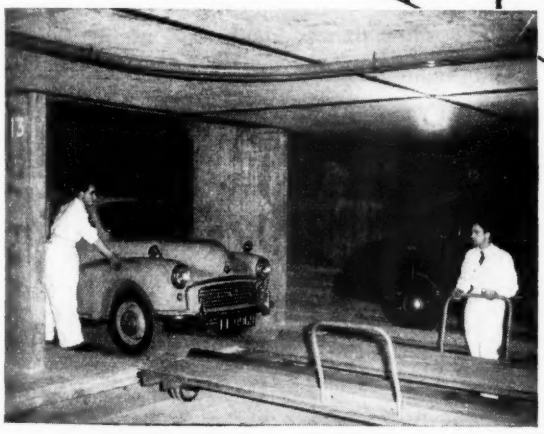
TGA C243

The Pearce Autopark

—a profitable car-parking system which has been operating since April 1956



'Motor' photograph



The Pearce Autopark is a semi-mechanical, attendant-operated, multi-storey garage, the first example of which is giving a 24 hours a day service, economically and profitably, at Cornwall Street, Birmingham, *now*.

Architects and others interested are invited to see it in operation at any time.

R. S. PEARCE & COMPANY LIMITED (*to whom all enquiries should be made*)
11-19 Cornwall Street, Birmingham 3. Tel : CENtral 8035.

in association with

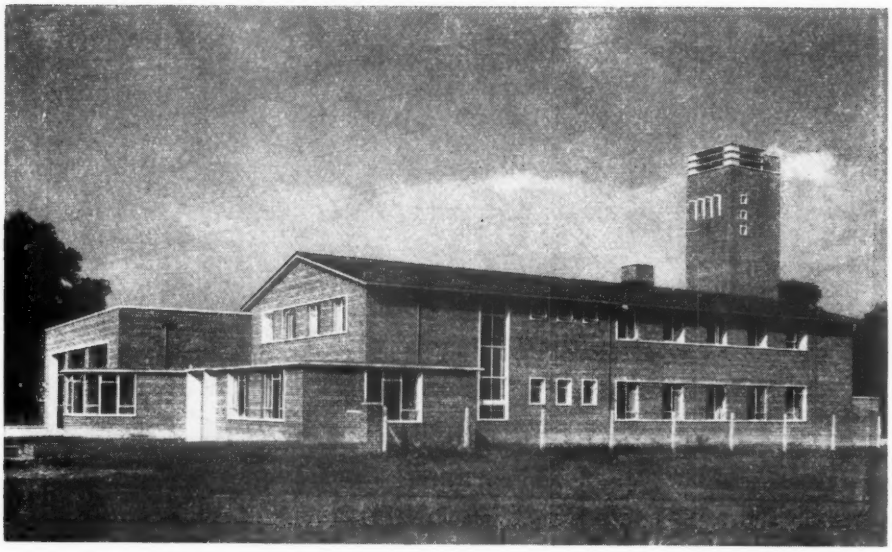
Wm. Wadsworth & Sons Limited, *Lifts, Trolleys and special electrical equipment,*
High Street, Bolton, Lancs.

William Townson & Sons Limited, *Building Contractors,*
Higher Swan Lane, Bolton, Lancs.

The Trussed Concrete Steel Company Limited, *Structural Engineers and Contractors,*
Truscon House, Lower Marsh, London, SE.1.

NOW IS THE TIME TO SPECIFY

BRODERICK INSULATED COPPER ROOFING



NEW FIRE STATION,
HIGH STREET, CRAWLEY.

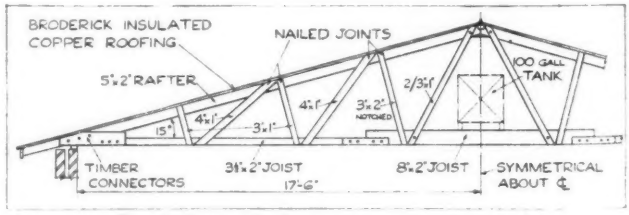
Architect:—
F. REGINALD STEELE
F.R.I.B.A., Dist.T.P., F.R.I.C.S., M.T.P.I.
County Architect for West Sussex.

BRODERICK INSULATED COPPER ROOFING AT 15° PITCH.

LOWEST COPPER PRICES FOR YEARS, allied to the economy of our prefabricated "trussed rafter" roof framing, make the first cost attractive, whilst the long life of the copper covering and the good insulation of the roofing panels ensure low maintenance and heating costs . . . Where a firm commitment can be undertaken we can protect you against possible increases in costs before completion.

Our photograph shows how BRODERICK INSULATED COPPER ROOFING blends with the design of a fine building. The development in due time of the lovely light green patina will further enhance its appearance. Our trussed rafters automatically provide ceiling joists at 2ft. centres and are readily adapted to carrying special loads such as storage tanks, gymnasium apparatus, stage curtains and so on.

We design, supply and erect "everything above the wall plate" and will be pleased to submit a scheme and estimate for any suitable job from a single house upwards.



Detail of trussed rafters supporting water tanks.

Illustrated folder free on request.

BRODERICK INSULATED STRUCTURES LTD.,

HERMITAGE ROAD, WOKING, SURREY. Telephone: Brookwood 2266

THE JOURNAL OF THE ROYAL INSTITUTE OF BRITISH ARCHITECTS

66 PORTLAND PLACE LONDON W1

Telephone: LANGHAM 5533
Telegrams: RIBAZO WESDO LONDON

MARCH 1958 THIRD SERIES VOL. 65 NUMBER 5 THREE SHILLINGS AND SIXPENCE

EDITORIAL

Castles in Spain

The exhibition of photographs of Spanish Castles was opened on 14 February by Señor Don Ramón Sáenz de Heredia, Chargé d'Affaires of the Spanish Embassy. Mr. Kenneth M. B. Cross, President, R.I.B.A., was in the Chair.

The Marquis de Sales, President of the Association of Friends of the Castles in Spain and Señor Don Ramón Martin Herrero, Cultural Counsellor, were also present and gave short addresses.

The exhibition closed at the R.I.B.A. on 28 February.

British Architects' Conference

Members intending to go to the Conference at Newcastle are urged to make their hotel bookings as soon as possible as although the hotels have been asked to extend the date, they could not guarantee to reserve accommodation after 28 February.

The Yerbury Foundation

A new Trust has been set up in an attempt to develop the technical skill and creative conscience of the architect. Its title is The Yerbury Foundation. An appeal for funds will be made to industry generally, since the Trustees believe that the training of the architects to fulfil their complex and growing responsibility to society is of national importance. The organisation they have chosen to further this aim is the Architectural Association, and the funds will be used to extend its educational activities.

Aware of the limitations in the conventional training of the architect, the Architectural Association has for some time been making plans to develop its educational programme, mainly in the field of postgraduate study and research. One result of this was the setting-up in 1954 of the successful School of Tropical Architecture. Lack of the necessary finance has hampered further progress. The independence of the Architectural Association School (it is without State aid) provides the stimulus—but not the funds—for the kind of experimental and unconventional activity vital to architectural progress.

The Yerbury Foundation would provide funds for the launching of postgraduate and graduate courses in such vital subjects as urban design and building management, and for advanced study and research in building technology. They would also be used to adapt the Architectural Association's educational policy to changing needs, so that, for instance, the integration in training of architects and building technicians could become a practical reality.

The Trustees emphasise that the decision to use funds for particular projects will be their responsibility. Suggestions by the Architectural Association will be considered in the light of the Trust's primary aim of increasing the architect's value to society. The Trustees include two notable industrialists, Lord Wilmot of Selmeston and Sir Colin Anderson, and four architects, Bryan Westwood (Chairman), Edward Playne, Basil Spence, and F. R. S. Yorke. They have been joined, at their request, by F. R. Yerbury, whose lifelong efforts to improve both the standards of the building industry and its service to the nation give the Trust an appropriate title.

Film on Coventry Cathedral

At the general meeting on 4 February, and before the Criticism of Prizes and Studentships given by Mr. Peter F. Shepheard [*A*], Mr. Basil Spence, O.B.E., A.R.A., A.R.S.A. (Hon. Secretary), introduced a film sponsored jointly by the British Council and the British Film Institute making use of the Model of Coventry Cathedral. Mr. Dudley Shaw Ashton was responsible for the film, Mr. Spence for the commentary and Mr. Michael Tippett for the musical accompaniment.

Mr. Spence mentioned several modifications he had made since seeing the film which he described as giving a unique opportunity for an architect to see the interior of his building before it was built, since the camera had been able to explore the inside of the model. For instance the colour of the internal walls was now white instead of pinky grey stone which would have sapped the colour from the stained glass. This in turn had led to the thin concrete canopy being replaced by wood slats through which light would filter down. Study of the film had resulted in a number of other improvements, said Mr. Spence.

Mock Arbitration

The next Quantity Surveyors' General Meeting will be held on Wednesday, 16 April at 6 p.m. in the Hoare Memorial Hall, Church House, Great Smith Street, Westminster, S.W.1.

The meeting is to be devoted to a mock arbitration arising from a building contract. Members wishing to attend should apply for tickets to the Secretary of the Royal Institution of Chartered Surveyors, 12 Great George Street, S.W.1.

Council Business

The Council met on 4 February with Mr. Kenneth M. B. Cross, President, in the Chair.

The London County Council (General Powers) Bill, 1957, submitted to Parliament this month, was studied by the Committee on By-Laws and Building Regulations, who made recommendations to the Council on various aspects of the proposed delegation of powers to Metropolitan Boroughs. Arising from these recommendations the Council gave approval to the submission to the House of Lords of a petition in opposition to the Bill; the R.I.B.A.'s case being that with the development in new materials and techniques in a continuous campaign to reduce the cost of building, it is essential that the system of consents should be administered uniformly by the minimum number of different authorities and by those with full experience. An outline of the petition appears on page 165.

Other notes from the Minutes are given on page 175.

Frank Woodward

The JOURNAL regrets to record the death of Frank Woodward [*A*] on 1 February at the age of 75. Mr. Woodward retired from the technical assistant editorship of the JOURNAL at the end of 1957.

Junior Liaison Committee

A further meeting sponsored by the Junior Liaison Committee, for which the hosts will be the Junior Quantity Surveyors Committee of the R.I.C.S., will be held at the Horseshoe, Tottenham Court Road, on 24 April, at 7.40 p.m. The subject will be the (mock) settlement of the builder's final account.

The meeting will be preceded by an informal dinner at 6.30 p.m., for which the price of tickets will be 7*s*. 6*d*. Any younger member who is interested should apply for tickets to the Secretary, R.I.B.A., and if desiring to attend the dinner as well, should enclose a Postal Order for 7*s*. 6*d*. with his application. Applications should be received not later than 15 April.

Cover Picture

The original of the drawing of St. Paul's at the time of the Blitz was done on the site by the late Percy J. Westwood [*Retd. F.*] and is reproduced as a tribute to his draughtsmanship.

Civic Trust Publications

The Civic Trust whose objects have been stated in previous notes in the JOURNAL, has initiated a programme of technical and other publications. The first two are a Report of the Inaugural Conference of the Trust held last summer at Lambeth Palace, and the booklet called 'Your House on View' which was originally published by the Council for the Preservation of Rural England who gave it a limited distribution. The Civic Trust thought it such an excellent summary of the more important points about housing design and layout, that it has reprinted the booklet.

Both publications are currently being distributed to some 30,000 people with a special interest in such matters, in particular the elected members of local authorities and planning committees.

Some 19th Century Towers: Addendum

The article by Frank I. Jenkins [*A*] in the February JOURNAL was originally read as a paper to the R.I.B.A. Library Group on 15 April 1957.

Symposium 'Design Pays'

A one-day Symposium has been arranged by the Town and Country Planning and Housing Committee of the R.I.B.A. to take place on 2 May 1958. The purpose of the meeting is to stimulate action to improve the appearance of town and countryside through the better design of private housing. The Committee are sure that this is not only socially desirable, but is a business-like and worth-while object. It is hoped that this joint meeting of architects, builders, representatives of building societies and clients will do much to promote the understanding which is thought to be necessary before better design can be commissioned.

The meeting will be opened by the Rt. Hon. Henry Brooke, M.P., Minister of Housing and Local Government, and it will be held under the chairmanship of Sir Hugh Casson, R.D.I., M.A. [*F*]. The programme will be as follows:

10 a.m., Opening Address after which the Chairman will speak on 'The Situation'. At 10.30 a.m. there will be three contributions on 'The Clients' Needs' by Mr. C. Douglas Calverley, M.I.O.B., a house builder; Mr. Hubert Newton, F.C.I.S., a general manager of a Building Society; and Miss May Abbott, news editor of a national newspaper for women. There will then be a break for coffee.

At 11.35 a.m. there will be two contributions on 'What the Architect can Offer' by Mr. Clifford Culpin [*F*] and Mr. Tom Mellor [*A*], followed by a discussion opened by Mr. Peter Dunham [*F*] until the lunch interval at 1 p.m.

At 2.30 p.m. there will be further discussion on 'Getting Together', opened by Mr. G. Grenfell Baines [*A*]. Time for questions on the morning session will be allowed.

At 3 p.m. there will be three contributions on 'Actual experience in Building and selling better Design' by Mr. Eric Lyons [*F*], Mr. Norman Wates, builder, and Mr. Roger Raymond, M.I.O.B., builder, followed by 'The Acceptance of Present Day Design' by Mr. Paul Reilly, Deputy Director, C.O.I.D., until 4.15 (tea).

At 4.45 p.m., The Chairman will sum up on 'Taking Action', followed by general discussion opened by Mr. P. G. Laws, M.T.P.I., a County Planning Officer.

The Symposium is expected to end at 5.30 p.m.

A small exhibition will also be on show to illustrate outstanding examples of both good and bad private development.

Tickets for the Symposium, costing £1 each and including morning coffee and afternoon tea and a copy of the printed report of the proceedings to be published after the meeting, are obtainable from the Secretary, R.I.B.A., 66 Portland Place, London, W.1. Applications should be marked 'Design Pays Symposium' and should be accompanied by a cheque or postal order in payment for the number of tickets required.

R.I.B.A. Diary

WEDNESDAY 26 FEBRUARY–SATURDAY 22 MARCH. Exhibition of *One Hundred Years of Architecture in America*. Mon.–Fri. 10 a.m. to 7 p.m., Sat. 10 a.m. to 5 p.m.

MONDAY 10 MARCH, 6 p.m. Library Group. Mr. John Harris will introduce an evening on William and John Talman.

FRIDAY 14 MARCH, 2.15 p.m. Symposium on *The Design of Teaching Laboratories in Universities and Colleges of Advanced Technology*.

TUESDAY 25 MARCH, 6 p.m. Science Lecture. *Domestic Building and Speculative Development*, by Eric Lyons [*F*].

TUESDAY 15 APRIL. Presentation of Royal Gold Medal.

Public Parking Garages

By Sir Herbert J. Manzoni, C.B.E., M.I.C.E., M.I.MUN.E., M.T.P.I.
City Engineer and Surveyor, Birmingham

Read at the R.I.B.A. on 21 January. The President, Mr. Kenneth Cross, in the Chair

THE PRESENT-DAY MOTOR-CAR has developed from the horse-drawn carriage; there is every evidence of this development in its form and size and it is probably the most wasteful and uneconomic contrivance which has yet appeared among our personal possessions. The average passenger load of motor-cars in our streets is certainly less than two persons and in terms of transportable load some 400 cu. ft. of vehicle weighing over 1 ton is used to convey 4 cu. ft. of humanity weighing about 2 cwt., the ratios being about 10 to 1 in weight and 100 to 1 in bulk.

The economic implication of this situation is ridiculous and I cannot believe it to be permanent. Few, if any, of our medieval towns could have accommodated modern traffic and that our modern towns have done so during the past two or three decades is due purely to fortuitous circumstances. The time required to rebuild a town is about 100 years, the average age of buildings, and it so happens that during the past century we have responded to a reaction against the old pattern of density, mainly for health reasons, and designed our rebuilding and new building on spacious lines—some people think too spacious—and in so doing we have accommodated almost unconsciously the phenomenal growth of traffic.

The present density of traffic in this country is 1 vehicle to between 7 and 8 persons; in America it is 1 vehicle to less than 3 persons, and in the city of Los Angeles 1 vehicle to 1 person; traffic planning in America is now based upon a 50 per cent increase on present figures, but provisions for traffic in most towns and cities of America show little, if any, advance over those in this country in relation to the greater volume—what does show advance is the energy and speed with which they are now attacking the problems.

Major schemes to accommodate modern traffic in American cities are of comparatively recent origin and public parking projects on a grand scale are very recent indeed—the penalty for using a private car is usually a battle with congestion and delay worse than that encountered here, and the cost in fees very much more than is accounted for by the difference in money values.

There are many possible directions in which this problem may ultimately be resolved: a new conception of the design of town eliminating much of the present traffic movement; a new form of personal transport vehicle; vertical rather than horizontal development of traffic facilities; the more general use of air transport and automation can play a part, but before any of these become effective it is vital to deal with the immediate situation which is that more and more motor vehicles, particularly private cars, will use our town streets and need to be accommodated in space.

The mere existence of a motor-car, or any motor vehicle, postulates two space problems, the problem of facilities for movement, and the problem of standing whilst at rest—this paper is concerned with the second. Because a motor-car is a personal vehicle it needs accommodation wherever its owner may be whilst he is using it, and near to its owner at other times; in practice this means two parking places per vehicle. The size of each parking place must be about 16 sq. yd., the one being permanently reserved at or near the owner's home and the other being interchangeable but most often near his place of business. If only 50 per cent of cars are used during the day by their owners, almost certainly an under-estimate, the requirement at any moment becomes 24 sq. yd. per car or 5 acres per 1,000 cars.

The number of cars registered in the city of Birmingham is nearly 100,000, requiring about a square mile of space.

This space requirement is about three times that allotted per person in offices and nearly equal to the reasonable provision in domestic planning.

In the case of factories and shops, the required parking space may well exceed the floor space of the buildings themselves, whilst for places of public assembly it might exceed the floor space many times.

It has hardly been realised yet in this country that the existence or lack of adequate parking space can mean enormous fluctuations in land and property value, can seriously affect sales turnover and can be all-important in the maintenance of an adequate labour force in industry.

The provision of parking facilities at or near home is probably the less difficult problem to solve, especially in this country.

It is a common sight in America and in Europe to see the streets in residential areas lined with cars standing at the kerbside, or rather at the roadside, kerbs being less common than here, but although this is unsightly and often inconvenient it seldom interferes with the passage of traffic.

In this country a greater proportion of houses have some sort of forecourt into which to draw a vehicle off the road and in spite of the detriment to amenity this is at least a partial solution.

Most local authorities are now making some provision in their house-building programmes for the garaging of cars either at individual houses or in group schemes and there is usually a reasonable amount of space in residential districts where parking grounds can be sited.

In high density residential districts, principally the older districts, it may be necessary to consider special buildings for parking and then the problem becomes similar to that in commercial areas, but, using all these methods, provision on the scale of one car place per family will almost certainly be required.

Some reduction from this theoretical requirement might be achieved where compact residential areas adjoin business establishments, because parking spaces used during the day by business people might be used at night by near-by residents, but the incidence of this convenient arrangement is not likely to have much effect on total provision.

Scale of Provision

It is probable that street parking will remain a feature of our towns for a very long time, and indeed it is not particularly troublesome in the great majority of the streets of a town so long as adequate spaces are left for commercial vehicles loading or unloading at business premises; but in the high density areas, such as town centres, where the parking demand is very high and where the space demand of moving vehicles is also high, the problem can be solved only by a system of very onerous prohibitions or by the provision of adequate off-street parking spaces.

The difficulty is to estimate the scale of provision necessary in any particular situation.

Many surveys have been made, particularly in America, to this end and have usually proceeded from an estimation of the number of persons occupying the individual buildings in the area.

In office buildings and retail shops and stores the figure can be reduced to a ratio of car spaces per unit superficial area, in cinemas and theatres and other places of assembly to car spaces per unit number of seats, in hotels per guest room, and in dwellings per family unit.

Examples are given in the table on page 148.

The figures take account of the multiple use of parking spaces, particularly in regard to retail shops and stores and the seasonal use in connection with places of assembly, the factor in America being found from experience to average between 2 and 3.

A survey on these lines for the central area of Birmingham, about ¼ sq. mile, gave a figure of 10,000 car spaces required, but the unit figures used were much lower than those used in America or even in Germany.

CAR PARKING STANDARDS

Requirements made by various Authorities in dealing with Application for Development

	Birmingham 1956	*L.C.C. July 1957*	*Frankfurt 1956*	*Chicago 1954*	*Remarks*
	ONE CAR PER				
Offices and showrooms	2,000–2,500 sq. ft.	2,500 sq. ft.	1,000–1,250 sq. ft.	400* sq. ft.	* Banks, Offices, Public Admin. Buildings
Warehouses			1,250–1,600 sq. ft.		
Industrial buildings		5,000 sq. ft. plus provision for offices. Minimum 2 places.	1,250–1,600* sq. ft.	4 employees plus space for Company's vehicles	* Light or service industry
Houses	5* dwellings		1–3 dwellings	1 dwelling	* Municipal only
Residential flats	As houses	200 persons per acre zone. 2 lettable units. Elsewhere 4 lettable units.	Single persons 1 to 2. Others 5 to 10	1 to 2½ dwellings	
Hotels	2 guests	5 bedrooms	Price group. Special: 2 beds A 3– 5 B 6– 8 C 8–10	6 guests	
Large shops and stores	4,000 sq. ft.	2,500 sq. ft. (General Guide)	500–1,100 sq. ft.	Small goods 300 sq. ft. Large goods 600 sq. ft.	
Cinemas	Central Nil Inner 60 seats Outer 25 seats	60 seats	Inner 20–30 seats Outer 30–50 seats	5–10 seats	
Theatres and concert halls		15 seats	15–50 seats	5–10 seats	

Siting

The siting of car-parking facilities is also a difficult problem in congested areas because of the lack of space.

Hitherto in this country it has been quite fortuitous and accommodation has been provided on any land which happened to be vacant, particularly on bombed sites in the major cities, but if an adequate programme is to be pursued as it is, for example, in Chicago at the present time, existing buildings will often have to give way to multi-storey car parks near to the shops and offices which generate the demand.

A very convenient arrangement in the case of large stores is to provide a private car park for customers as part of or adjoining the store and this development has proceeded in America over the past 20 years, some stores actually moving out of the town so as to be able to meet this requirement—it would be rather interesting to see Harrods or Selfridges move to Wimbledon Common in order to meet a customer parking demand, but it is not so wild an idea as may at first appear. It has happened in America.

The siting of public parking garages is not quite so obvious because they must serve the demand of many buildings, but from a general consideration some principles emerge. Large car parks to accommodate upwards of 500 cars will generate considerable streams of traffic, especially if they have a heavy peak load, such as will result if they serve mainly a district of office buildings. These heavy traffic streams are not wanted in busy narrow streets, nor are heavy traffic streams wanted in shopping streets where the element of danger emerges.

On the other hand, small car parks for up to, say, 100 cars, can be very usefully sited in the heart of a town adjoining the shops they serve and may well be built as part of a large store or commercial building.

Access to a car park is important if it is to be well used and a situation adjoining a main traffic route is preferable to one approached by a tortuous way.

Railway stations and public transport loading points are a factor to consider and some regard should be paid also to the character of surrounding buildings.

In Chicago large car parks accommodating upwards of 500 cars are being built in a ring round the central area—in Birmingham they are planned alongside the Inner Ring Road which will encircle the city centre on a ¼-mile radius.

The ideal seems to be that large car parks should encircle the congested area and adjoin the incoming traffic routes, and smaller ones should be scattered in reasonable numbers among the central buildings, preferably inside the buildings themselves.

Method of Parking

There are three principal systems employed for the parking of cars:

Customer Parking
Attendant Parking
Mechanical Parking

Customer parking is the simplest, the cheapest, and generally the most satisfactory for public garages. Under this system the driver takes his vehicle into the park, finds or is allotted a space to which he proceeds and can lock his car and leave it there until he reverses the process in removing it. This system involves continuous roadways to all parking spaces and if the garage is multi-storey it involves the driver in negotiating ramps and perhaps small turning circles and the eventual manœuvre in between other vehicles.

The attendant parking system as it is normally understood involves considerable staff; the owner drives into the garage entrance and hands over his car to an attendant, who drives it to its final space and eventually removes it and returns it to the owner at the garage exit. The system is more flexible in that it allows the use of lifts and moving platforms, which the attendant can be trained to manipulate. The cost is invariably greater and there are time vacuums which necessitate the provision of waiting rooms for the car owners, and usually a considerable space reservoir at the garage entrance. There is also a greater risk of argument about liability for accidental damage, but there is the possibility of some space saving.

At some American garages both these systems are in operation—notably at Grant Park, Chicago, where walking distances can be considerable because of the large area of the parking space on only two floors.

Mechanical parking involves considerable machinery and can be made almost completely automatic. There are a number of systems in operation in America and in Europe and a number more in the experimental stage. The general principle is similar to attendant parking except that the car is moved by hoists and trolleys to its parking space and eventually returned in

the same manner. The advantages and disadvantages of attendant parking apply but there is probably less risk of damage. The time element is probably less variable in the actual journey but the waiting time, particularly on removal at peak periods, may be very extended because whilst the number of attendants is variable the number of machines is fixed. A single machine may serve 50 or more car spaces, the operation occupying about one minute, so it is obvious that if all 50 owners arrive at the same time to recover their cars, one of them must wait 50 minutes and the others in sequence. The same difficulty at entrance can be overcome by an adequate waiting reservoir provided the attendants can be allowed to move the cars by driving them to the reception point.

Many studies have been carried out on the characteristics of mechanical and ramp type garages in America, but until all the findings are made known it would be unwise to draw final conclusions, as conditions vary so much in each case. I have thought, however, it would be useful to include in this paper the results of two such studies.

Mechanical Parking Garage. On 25 April 1955, the Chicago Bureau of Street Traffic and Parking made a comprehensive study of Parking Facility No. 8, described later in this paper.

Between 9 a.m. and 5.15 p.m., 830 cars were parked and 719 were unparked, and the maximum accumulation was 328 or 66 per cent of the garage capacity (495) between 12 noon and 1 p.m. Every car was timed upon its arrival in the street, its arrival in the reception reservoir and at the moment when the driver received a ticket and was free to leave.

For departures each driver was timed upon arrival in the waiting line, arrival at the cashier's window and at the moment of car delivery.

It was found that the greatest delays normally occur at the times when the garage is most heavily occupied. The average arriving customer was free to leave in slightly over one minute and the maximum delay was about three minutes. This expeditious handling was ascribed to the 34-car reservoir space. This reservoir space does not help with the deliveries and the average wait or delay in delivery was 6·7 minutes. Between 12 noon and 1 p.m. the average delay was 9·75 minutes, with a maximum of 16 minutes. This was on a day when the peak occupancy was only 66 per cent of capacity and there was no two-deep parking.

Using the same arrival pattern but expanding the volume it was estimated that at the time of peak movement (or the greatest delay) or 12 noon to 1 p.m., the occupancy would be 476 or 119 per average elevator.

The average time for each elevator trip on the day of study was 84 seconds.

Assuming the most favourable conditions, the estimated time for a dual trip (i.e. storing one car and delivering another) for the occupancy of 476 would be 116 seconds. This would mean that the four elevators would only be able to store and deliver 248 cars whereas the demand during this hour would be for 306 cars. There would, therefore, be a delay of 29 double trips at 116 seconds each and this equals 56 minutes.

To overcome these delays it would be necessary in a future design to allow less stalls per elevator—possibly less than 100—or to increase the vertical speed of the elevators, which in this case was 250 ft. per minute.

The maximum possible delivery for the peak hour would be 154 cars.

It must be remembered that in considering any garage the criterion is not the individual delivery times but the rate per hour and that in a mechanical garage the handling operations cannot overlap each other (for each elevator) as they can in a ramp garage.

Customer Parking Garage. In May 1957 Mr. D. N. Oliphant made a study of the G. Fox Parking Centre in Hartford, Connecticut.

The garage is a concrete open deck structure with a continuous rectangular spiral ramp serving five levels including the roof above ground and a basement below. There are 654 usable clear aisle stalls. The reservoir space can handle up to 25 cars. The peak hour in-bound movement was 428 cars and it is considered that no other type of parking garage with similar or even slightly larger reservoir space could cope with this in-bound movement as smoothly as did this facility.

The maximum outflow per hour was 331 cars, and the total in and out peak hour movement was 531. It is interesting to compare this figure with the best possible under the previous study which was 248. The average time to park increases as the cars are parked at higher levels.

The average was 6 minutes 4 seconds, i.e. from 3 minutes on basement and first floor to 9 minutes 52 seconds for the fifth floor. The average time to unpark was 5 minutes 3 seconds and varied from 2 minutes 55 seconds for the first floor to 7 minutes 27 seconds for the fifth floor. These times included the time at the cashier's office which varied from 34 seconds to 1 minute 40 seconds.

It is estimated that the saving of space in this type of mechanical parking garage, due mainly to the reduction of roadways and ramps, is about 25 per cent, but it can be more in certain types not yet in common use.

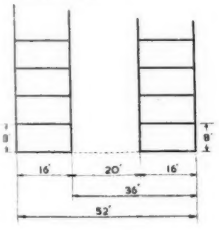
The merits and demerits of these systems have been debated time and time again and undoubtedly each has its place in any scheme for complete provision for parking needs but, generally, customer parking seems most suitable for large public car parks and mechanical operation for smaller parks in congested areas of very high land values where the load is evenly spaced throughout the day. Attendant parking is mainly a matter of convenience where customers are prepared to pay for it.

Underground and multi-storey Garages

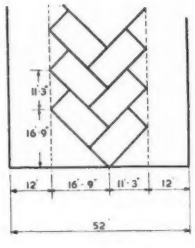
The simplest form of car park is, of course, a piece of vacant land with or without a cover, also it has the greatest capacity per unit of size. Parking spaces should measure 18 ft. × 8 ft. to allow for any, or almost any private car with room for the doors to be opened and, if the shape of the plot is suitable, 209 cars can be accommodated on an acre of land.

There is no numerical advantage in diagonal parking over a rectangular arrangement, usually the reverse. Diagram No. 1 shows the space taken up per car for various degrees of parking and it will be seen that, taking into account the narrower access ways that are permissible with angle parking, and even with the intermeshing that is possible to save the waste of a triangular area of land at the end of each plot, the 90 degrees parking is still the most economical where the necessary width can be obtained.

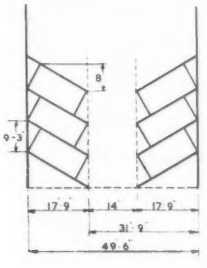
Diagram 1



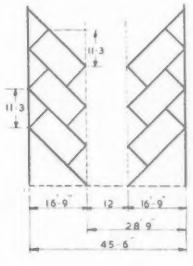
AREA PER CAR (STALL + ½ AISLE)
208 SQ. FT.
STRAIGHT PARKING 90°



AREA PER CAR (STALL + ½ AISLE)
225 SQ. FT.
ANGLE PARKING 45°
(INTERMESHED)



AREA PER CAR (STALL + ½ AISLE)
228 SQ. FT.
ANGLE PARKING 60°



AREA PER CAR (STALL + ½ AISLE)
256 SQ. FT.
ANGLE PARKING 45°

Structural Requirements. Very few towns can satisfy their car-parking needs solely at ground level and therefore multiple-storey structures must be built. In such structures the platforms can accommodate about 160 cars per acre, allowing for roadways and ramps and having regard to the limitation of accessways at the perimeter. In practice the ground floor is not able to develop its full capacity because it must also provide for offices, waiting rooms, reservoir space, lavatories, etc.

Underground car parks are always more expensive, not only because of the cost of excavation and retaining walls, but also because it is essential to provide such services as ventilation and drainage, and more ample lighting and fire precautions.

Above-ground structures have quickly developed a functional form which is at once a challenge and a credit to their designers—a challenge because so little variation is possible in appearance and a credit because many of them are very pleasing.

The structural requirements are simple to define but by no means simple to fulfil—an imposed load must be supported on a series of platforms held in place by a frame, the column spacing of which allows the best arrangement of car spaces and roadways according to the shape of the site. No walls or infilling are necessary and no partitions other than a lift shaft. The outer extremities of the platforms must be provided with a guard rail or buffer to prevent cars from being driven over the edge and connecting ramps must be built from floor to floor.

The imposed loading is usually taken at 80 lb. per sq. ft., both in this country and in the United States. This figure is given in the Code of Practice C.P.3, Chapter V, for garages for vehicles not exceeding 2½ tons gross weight.

Although some of the very largest cars exceed this weight it would not be economic to design generally for the imposed load of 150 lb. per sq. ft. given in the Code for vehicles between 2½ and 4 tons gross weight unless the garage were for a special purpose.

In considering the distribution of the actual imposed loading when the parking bays are all filled with average size cars, it may be that 80 lb. per sq. ft. over the whole area of the floor may seem rather a high figure and I understand at least one park in America is designed for 50 lb. per sq. ft. and one in Australia for 60 lb. per sq. ft.

In the design of new buildings where the basement is to be used for car parking, it is very important indeed that the spacing of the columns to fit the car parking scheme is considered at an early stage. I know of one case where at a late stage it was decided to use the basement for parking and it was necessary for the whole building to be re-designed.

Mechanical car parks are more complicated, some of them much more so, and the ultimate in this respect is not a building at all but a machine.

Perhaps the most difficult problem to solve in designing a multi-storey car park

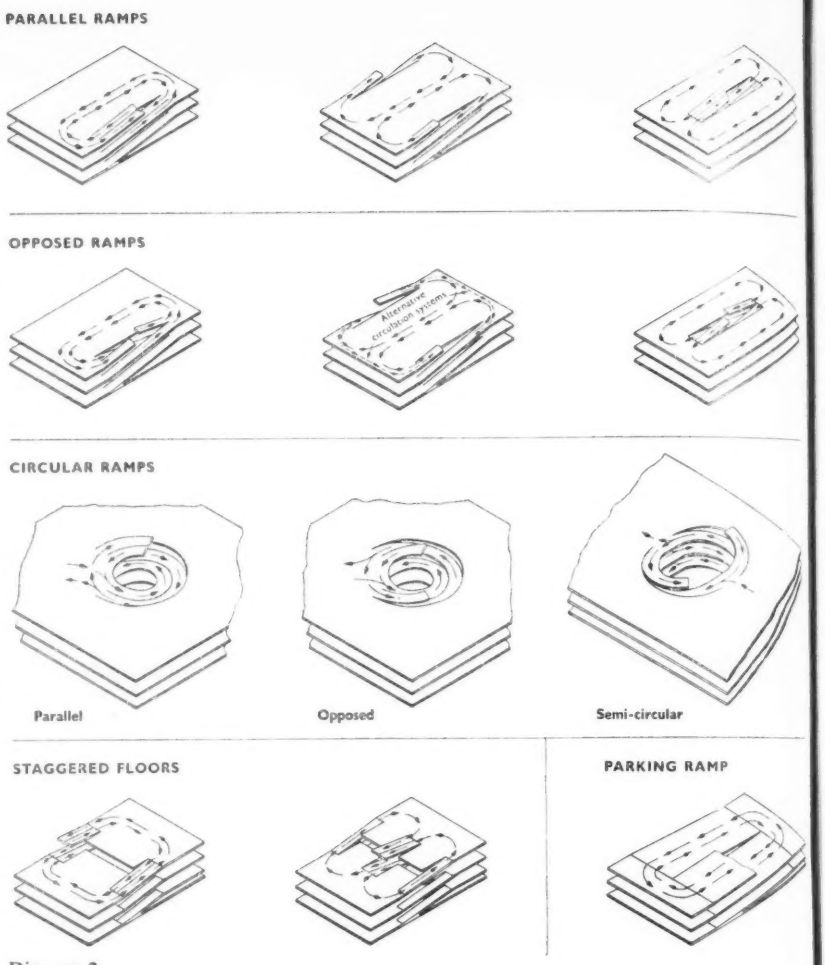


Diagram 2

is the system of traffic circulation, and whilst this depends to some extent on the shape of the site it is possible to choose several alternatives in any particular circumstances.

I am indebted to the Trussed Concrete Steel Co. Ltd. for permission to use a very apt little drawing, Diagram No. 2, showing a number of the possible systems of ramps in diagrammatic form, and there are still others, but in any of them the space occupied is considerable.

The minimum inside radius of curves should be 18 ft. and the width on curves no less than 12 ft. for a single line of traffic; double ramps, that is ramps which take traffic in each direction, should not be used. Some local authorities already have specifications covering these details and it is in all cases essential to inquire before commencing design.

Spiral ramps which can be tucked away in a corner of the building and sometimes partly outside the main site are very attractive as they reduce the journey to the eventual parking bay, but some drivers are not fond of travelling in a continuous spiral at a gradient of about 1 in 10 and in busy periods congestion may be caused from this source.

At the other extreme is the system of parking ramps where the floors themselves are set at opposing gradients side by side. Here the journey is the longest possible but the gradient is the least and on a long site is so slight as to be almost unnoticeable.

This system would be almost perfect were it not rather wasteful of space.

Individual ramps from floor to floor may be placed in a variety of positions and there is much to be said for making them discontinuous, that is by requiring the car to traverse a part of the level parking platform between ramps. In this way the ramps can be straight and quite short, especially if the floors are set at intermediate levels on each side of the garage and their gradients can also be steepened.

Engineering Services

Ventilation. Mechanical ventilation is essential in a parking garage unless adequate natural ventilation can be provided by leaving very large areas of permanent openings, which is usual in multi-storey parks above ground.

A mechanical ventilation system must be capable of handling not less than six air changes an hour and this can usually be arranged through an extract ducted system drawing air from near to the floor level. Care should be taken to ensure that there are sufficient fresh air inlet openings to permit the six air changes without excessive draughts through the entrances.

In some cases a more elaborate system of ventilation might have to be provided to deal effectively with all parts of the park. This may include a duct system to distribute adequately the fresh air. Where entrances exist direct from the garage to adjacent buildings, a balanced ventilating system should be provided with the extract fans of greater capacity than the inlet. Such a system will produce a movement of air through the entrances into the garage and thus prevent garage fumes entering the buildings.

Mechanical ventilation plants should be designed in two or more independent sections, so that in the event of the failure of one piece of equipment, the whole garage does not become inoperative.

Heating. Heating is not generally required within a parking area, but local heating must be provided in offices and waiting rooms; for toilets either sufficient warmth must be available to prevent frost damage to water pipes, or an alternative system of tracer wires must be employed.

Owing to the comparatively small areas to be heated, electricity is likely to be the most suitable source of heat and care must be taken to ensure that the electrical apparatus used is the flame-proof type where the office ventilation system is not separated from that of the parking space.

In situations where the garage is approached via ramps, it may be desirable to prevent the accumulation of ice and snow by the installation of embedded electric heating in the ramps themselves. Loading should be of the order of 5 watts per sq. ft., and the heating elements should be installed as near to the surface as is practicable, in order to have immediate effect upon a drop in temperature below freezing. The heating circuits might be suitably controlled by an air thermostat arranged to make the circuits alive when the temperature falls below 32° F. In multi-storey garages where access to each floor is by ramp, it is only considered necessary to instal heating on the entrance ramp and those leading to the first floor.

Electrical Installation. The lighting system in a parking garage should be designed to give a reasonably high level of illumination in the areas near the entrances in order to prevent too great a contrast between the lighting outside and that within the park. Inside the garage the level of illumination can be reduced and adequate maximum and minimum values are about 8 and 3 lumens per sq. ft. Care should be taken to ensure that any alterations in the level of illumination are carefully graded.

A decision as to whether tungsten or fluorescent lighting is appropriate will depend on considerations of capital and running costs, the latter, of course, being almost entirely dependent on the number of burning hours per day.

In underground garages all electrical equipment within 4 ft. of the floor must be of the flame-proof type and when installed above this height, should be totally enclosed. These recommendations are also desirable in all garages unless there is very considerable natural air change, such as would occur in a multi-storey park with no external cladding.

In underground parks where mechanical ventilation plants are employed, it is essential that a standby electricity supply is available to operate at least half the ventilation plant and a proportion of the lighting installation. This standby may be in the form of a diesel generator arranged to come into operation automatically on the failure of the mains supply. In certain cases, however, where the electricity supply is taken from a sub-station on the premises and there are alternative high-voltage supplies to the sub-station, a standby diesel generator may be dispensed with. It is, however, prudent to instal a battery-operated pilot lighting installation.

Substantial economies in operation cost can be achieved by switching off parts of the lighting and ventilating systems when they are not in use. Apart from local switching, therefore, it is advantageous to centralise controls of these installations in the attendant's office.

Fire Protection. In enclosed parking garages it is desirable to provide automatic sprinklers throughout the premises to restrict the spread of any fire. Where there is any risk of freezing of the sprinkler heads or connection pipes, it may be necessary to provide an alternate wet and dry system and where sprinkler systems are installed, care must be taken to ensure that adequate drainage is also provided.

Portable fire extinguishing apparatus should be located at strategic points and may take the form of soda acid and foam type extinguishers. Buckets of sand and water should also be provided, and it must be remembered that all fire-fighting apparatus must receive regular maintenance to ensure that it will function satisfactorily at all times.

Administration

The management and staffing of a parking garage are subject to a great variety of treatment which can have a deciding influence on the economics of the scheme.

It goes without saying that the manager must be enthusiastic and energetic but the number of staff he requires can vary over wide limits, and this variation depends not only on the type of car park but on the system adopted for control. With attendant parking and no mechanisation, as at Grant Park, Chicago, a peak-hour rush would need a considerable staff and a fair-sized reservoir space. The arrival of 300 cars in an hour would require 15 attendants if the reception and parking of each car occupied 3 minutes, which is probably an underestimate, and at the same time other attendants would be required for withdrawals. If the same attendants dealt with both arrivals and withdrawals at the same time, which is more economic, then the individual parking time would probably be as much as 5 minutes, and the number required would be 25. With a totally mechanised park having 5 lifts and a complete signalling system, and allowing 1 minute to park each car, the whole operation could be accomplished, in theory, by one man.

The effect of a mechanical or electrical breakdown would, of course, be catastrophic.

In Mellon Square, Pittsburgh, with six underground levels, there are three men per floor, plus office staff and supervisors, and this is for customer parking—it should be possible, with a fairly good signalling system, to reduce this number by two-thirds with confidence; in fact if each arrival can be given a stall number and the sign-posting is good, it should be possible to dispense with all but the staff at entrance and exit to issue and check tickets. This, however, would be rather dangerous because of the risk of fire and accidents in an enclosed structure.

The simplicity of the charging system has a considerable bearing on number of staff employed. In Birmingham, at an open surface car park which has a capacity of 750 cars, the charges are 9*d.* per 4 hours and 1*s.* 6*d.* for the day. By making a level charge of 1*s.* a system can be adopted which reduces the number of attendants from 16 to 8.

Signalling Systems

Some systems are most complicated. In Grant Park Underground Garage, Chicago, holding 2,359 cars, there is a central electric control panel which indicates whether spaces are occupied or vacant. At the central office the supervisor is able to see at a glance to what extent the capacity of the car park is being used at a particular time.

Also, motorists, when driving their cars into the park, are able to pick out a vacant space from an overhead light at the entrance aisle, which shows green when there are parking lots available.

In the lifts of the attendant parking garage in Chicago (Facility No. 1) an elaborate push-button and illuminated light system is in operation so that the attendant knows exactly which places covered by his lift are still vacant.

In the G. Fox Parking Facility in Connecticut, there is an intercom. between the various floors so that the attendants know when each floor becomes full. It is very important for the attendants at the entrances to have this information so that when the garage is full further customers can be turned away and so avoid any blockage. In Pittsburgh one self-parking garage has several neon direction signs, but it is considered that simple signs, black letters on the white walls, are just as effective.

Amenities

The amenities provided at a parking garage are important and depend to some extent on its situation; they should always include lavatories for both sexes.

A reservoir space for car reception during rush periods should be provided to prevent the congestion of the public highway, and with attendant parking and particularly with mechanical parking, the reservoir should be of considerable capacity.

The capacity of the reservoir is unfortunately impossible to calculate accurately in advance because it depends upon the peak inflow and the average time of parking per vehicle, and this again depends upon whether the vacant spaces are on lower or upper floors at the peak time.

In a parking garage for 500 cars employing customer parking, the reservoir should have a capacity of at least 25 cars and this should be increased to 50 if attendant parking or mechanical parking are employed. The entrance roadways or ramps can, of course, be included in the reservoir space.

With these latter systems comfortable waiting-room accommodation is highly desirable, and even with customer parking it is a wise provision so that passengers can alight and wait for the driver to return, or even await the arrival of the driver after a shopping expedition. At Grant Park, Chicago, there is a very comfortable waiting room, with good seating and kiosks for simple purchases.

The supply of fuel and servicing is a matter of some importance, particularly the fuel, and these items can also be a source of revenue to set against the parking charges.

It is, I think, important that the entrances of a parking garage should be bright and cheerful and not appear drab and uncared-for, and waiting spaces should always be clean and warm and not forbidding.

Economics

The largest single cost in the economics of a parking garage is the cost of the structure —other large items are the cost of land, fixed charges such as rates, insurance, etc., and staffing.

Apart from staffing, the only variable is the initial cost and there is a very wide variation. The actual or estimated cost per car space for a number of garages is given below.

As an example of how the economics of a scheme can be analysed, the following calculations from a scheme of my own in Birmingham are of interest:

Number of car spaces			1,000
Number of floors			9, plus roof
Land	*Total*		*Per Car Space*
Area	7,550 sq. yds.		7·5 sq. yds.
	£		£
Capital cost	220,000		220
Buildings			
Car park—capital cost	967,000		967
Shops etc.—capital cost	150,100		150
Total	1,117,100		1,117
Total capital cost	1,337,100		1,337
Rateable Value			
Car park	20,000		20
Shops, etc.	7,000		7
Total	27,000		27
Annual Costs			
Loan charges	61,131	(3½%)	61·1
Rents, rates, taxes, insurance	25,240		25·2
Maintenance of buildings	4,000		4
Heating, light and cleaning	3,000		3
Salaries and wages	15,650		15·7
Printing, stationery, etc.	400		·4
Other expenses	1,450		1·5
Total	110,871		110·9
Annual Income			
Car Park	60,000		60
Shops, offices, etc.	11,000		11
	71,000		71
Annual Deficiency	39,871		39·9

In September 1955 the Birmingham Corporation's Scheme for the Bull Ring Multi-storey Park was submitted to the City Council. The financial implications were very thoroughly investigated at that time and the summary is set out above.

In view of the likelihood of this deficit with a consequent charge upon the General Rate Fund, a net figure was obtained for the probable car-parking costs in the city as a whole and, as a result of pooling the profit and losses of all car parks, it was shown that there would be a slight profit over a period of years. This profit took into account the amount which would be received from 3,000 parking meters.

The scheme was rejected on account of its high cost and the large annual deficiency based on what was considered to be a reasonable charge of 3*s*. 6*d*. per day. It will be noted that the loan charges assumed at that time were 3½ per cent, but now on account of increased Bank Rate the figure for a large city like Birmingham where all the loans are taken together would be about 5 per cent. Taking this figure, the loan charges would rise to £76,729 and taking the same capital cost and annual running costs today as in 1955, then the annual deficiency would amount to £55,469.

From the above it is quite clear that in order to achieve an economic charge of 3*s*. 6*d*. per day, the building must be of the simplest design, in fact, a series of shelves, and in addition, if such a park is to be run by a local authority, then such authority should have powers to sell petrol and oil and be able to obtain income from the washing and servicing of vehicles.

The Birmingham Corporation are hoping to obtain these powers under a Bill now before Parliament. It may be found that the income from petrol sales, etc., equals the revenue received for car parking. If this is likely, then the planning of the space for sales and servicing requires the most careful consideration.

If it is assumed that it is possible even today to design a ramp type garage for about £400 per car space, and assuming a land cost of £200 per car which should be easily possible if valuable frontage land is not used, then the financial statement would be somewhat as follows for a capacity of 500 cars (*see facing table on page* 153).

Ramp Garages	
Allies Garage, Pittsburgh (495 cars)	£607
Down Town Centre Garage, San Francisco (1,200 cars)	£650
Tallahassee Garage (230 cars)	£242
Underground Garages	
Mellon Square, Pittsburgh (880 cars)	£1,330
Mechanical Garages	
Parking Facility No. 1, Chicago (715 cars)	£623
Pearce Garage, Birmingham (210 cars) (*Part Mechanical*)	£238
Rotapark	(Estimated) £500

In considering the annual income from such a project it is useful to have a table giving various degrees of usage.

Percentage use (daytime) 3*s.* 6*d.*

Percentage use (evening) 50% 1*s.* 6*d.*	50% £	66⅔% £	100% £
50%	18,750	23,108	31,875
66⅔%	20,618	24,975	33,750
100%	24,375	28,733	37,500

(300 days taken)

It will be seen, therefore, that assuming a 100 per cent day-time and 66⅔ per cent evening usage, the project would almost pay for itself without taking into account sales of petrol and servicing, etc.

It is very difficult to give comparisons of costs for ramp type garages against the mechanical types. For one thing, the cost of the land can make a very big difference. If the cost of the land is high, then it may be that a mechanical-type garage would show a saving over a ramped type in spite of higher capital costs and higher annual costs due to the maintenance of the mechanical equipment.

It is interesting to note that in the Kent Street Parking Station, Sydney, the estimated expenditure for twelve months was £34,800, which included interest and sinking fund payment of £18,925. The revenue for the first twelve months of working was sufficient to meet these charges and show a profit.

The staff at this garage consists of one manager, one senior attendant and four parking attendants.

Roof Parking

Consideration has been given to the provision of car-parking facilities on the roofs of buildings instead of by the more usual method of basement provision. Access would be gained by elevators and the cars would be parked in open storage, the roof having no cover. The only special requirements are:

(1) It is considered desirable to provide a 6-in. sill across the threshold of the doorway to the lift shafts. Ramps could be provided to facilitate the movement of cars over the sill.

(2) Adequate means of escape in case of fire would have to be provided for persons resorting to the car park.

The estimated percentage increase in the cost of a four-storey building as a whole, if the roof is designed as a car park, would be about 4 per cent.

The cost of a 10-ft. × 20-ft. car lift, including double gates, guides, motor, guards, etc., would be about £3,500 for four normal floors. It is suggested that a minimum of two lifts would be required for any roof car park as most of the cars would in a business premises be moved in and out of the park at normal commencement and completion of the business hours.

Applying this to an actual building:

Total cost of building (40,666 sq. ft. of floor space)	£159,000
Additional cost of providing car park on roof (i.e. 4 per cent of total cost of building).. ..	£6,360
Roof area of building	4,388 sq. ft.
Number of car spaces (allowing 250 sq. ft. per car)	17
Cost per car space $\frac{£6,360}{17}$ ..	£374

Concluding this section of the paper a few quotations from Harry W. Shepard, Jr., President of the National Parking Association of America, may be interesting:

'There is a right way and a wrong way to build a parking garage, and you can't build one right if designers and architects attempt to use architectural standards and textbooks that were outdated ten years ago. A parking authority cannot build a garage correctly unless it can draw on the experience of one of the men who has had to meet a parking payroll each Saturday.'

'On the surface, parking appears a simple business—nothing could be more misleading.'

'There are very few architects who ever designed a parking garage and even fewer who have designed more than one.'

Mr. Shepard designed a car park to accommodate 230 cars for Tallahassee (Fla.) at a cost per car space of $700 compared with the normal cost of $2,000 in most major cities—it is a sloping floor structure with one-way traffic and is described in THE AMERICAN CITY for October 1957 as having no frills, 60° angle parking, no interior columns and the cashier the only employee.

The following descriptions are of actual car-parking garages in operation and are chosen as examples of the various types:

Ramp Garages

1 *Continuous Parking Ramp*	Allies Garage, Pittsburgh
2 „ „	Kent Street, Sydney
3 *Spiral Ramps (Circular)*	Downtown Centre Garage, San Francisco
4 *Discontinuous ramps (straight)*	Parking Garage, Miami
5 *Continuous ramp (straight)*	Shopping Centre, Washington

Underground Garages

6 *Straight Ramp*	Grant Park, Chicago
7 „ „	Edgbaston Street, Birmingham
8 *Spiral ramps*	Mellon Square, Pittsburgh

Mechanical Garages

9 *Bowser*	Parking Facility No. 1, Chicago
10 „	Parking Facility No. 8, Chicago (La Salle Street)
11 *Autosilo*	Parking Garage, Karlsruhe
12 *Stationary Lift*	Mechanical Garage, Washington
13 *Lift and Trolley (part mechanical)*	Pearce Garage, Birmingham

In connection with Nos. 9, 10 and 11 above, it may be of interest to give a comparison between the Bowser type garage and the Pigeon Hole (America) or Autosilo (Germany).

Comparison between the Bowser type Garage and the Pigeon Hole (America) or Autosilo (Germany)

The structure in each case is similar, consisting of two opposing tiers of parking bins and a central aisle in which elevators move horizontally as well as vertically. While the elevator carries the car vertically, the whole elevator structure may be moved horizontally, so that one elevator can serve several tiers of parking bins.

In the case of the Pigeon Hole or Autosilo, the elevator tower moves on ground-level rails while that of the Bowser is suspended from above.

The Pigeon Hole type has a mechanical trolley or device for loading and unloading the vehicle while in the Bowser an attendant drives the cars on and off the elevator; because of this the Bowser design can provide two-deep parking on one side or both sides of the shaft.

The Pigeon Hole garage is operated with levers by an attendant riding on the elevator platform while the Bowser has push-button controls on the platform, operated by the attendant through the car window. It will be realised that in this system the car cannot be left locked but in the Pigeon Hole or Autosilo system, provided the car driver leaves his car where it can be reached by the trolley, then the car can be left locked. If the car is left somewhat askew, the operator is able to square it into position

		£
Land	500 cars at £200..	100,000
Structure	500 cars at £400..	200,000
		£300,000

Annual Costs

Loan Charges 5 per cent (cushioned rate)

Land £100,000 over 60 years	5,283
Structure £200,000 over 30 years..	11,656
Operating costs at £25 per car space	12,500
Rates	5,000
	£34,439



Allies Garage, Pittsburgh



Downtown Centre Garage, San Francisco

by using the trolley to lift the front axle and then move it a few inches sideways, but this is, of course, a time-wasting operation.

There are many suggested and experimental systems involving mechanical trolleys and platforms, some of them moving on the system of the endless belt or escalator but none of them seems to have been adopted on a large scale and descriptions therefore are not included, but a very ingenious system on a somewhat new principle is proposed and is a combination of stationary lifts and moving floors.

The Rotapark

This is an experimental system not yet in commercial operation.

The main advantages claimed for the Rotapark are small area—100 ft. × 100 ft. of land is required—and relatively low cost, about £500 a car space compared with £700–£1,000 a car for the orthodox multi-storey garage with spiral ramps. If development proceeds satisfactorily it is hoped to reduce constructional costs to £450 a car space.

The average time for parking a car, or getting it out, is estimated to be 53 seconds.

On each rotating floor, or rotor, there are 32 car spaces—28 if designed to accommodate American cars. Four lifts, at 90° to each other, are provided in the centre of the rotors. Each lift serves a 90° quadrant or eight car spaces. If a lift fails, the parking rotors can be turned through the full 360°.

Three Designs. The Rotapark can be erected as a skeleton steel framework without floors or walls, or it can be built as a semi-open unit, or with concrete floors and curtain walls.

The recommended unit for business districts has ten storeys with 320 car spaces, plus 30 reservoir spaces on the ground floor. It is 90-ft. high.

In the simplest form, parking operations are handled by two attendants. Each attendant monitors two panel boards which operate two lifts and the components in his charge.

Parking procedure is as follows: the car is driven on to a reservoir turntable and left with the brakes off. The turntable turns automatically and aligns the car with a parking trolley on the lift. (A trolley has been developed which, it is claimed, can connect to any make of car.)

Push-Button Alignment. The attendant pushes a button which turns the parking rotor so that the space allocated for the car faces the lift.

A second button is pushed and this sends the parking trolley out from the lift and under the car to take it on to the lift. In the same operation, the lift rises to the correct floor and the trolley pushes the car out, deposits it on the U-shaped channels of the parking stall and returns to the lift.

The lift descends to the reservoir floor and the lift door opens. The unit is then ready for another trip.

With electronic devices, the Rotapark can be made completely automatic. All lifts, rotors and trolleys are then operated from a single point, manned by one operator.

DETAILED DESCRIPTION OF ACTUAL CAR PARKING GARAGES PREVIOUSLY MENTIONED

Ramp Garages

Continuous Parking Ramp. ALLIES GARAGE, PITTSBURGH. This garage is six storeys in height and has accommodation for 495 cars. It is of ramped design, the ramp running the whole length of the building connecting one floor to the next with car parking on each side. The length of the car parking bays is 18 ft. and the central clearway is 24 ft., thus requiring a 60-ft. grid or a total width of building of at least 120 ft. The gradient is thus very easy and the whole is a very pleasant design with very light parapets. The structure is of steel with only the columns fire-proofed. The site connections were by means of high-strength bolts, thus eliminating site riveting.

The 700 tons of steel were erected in just five weeks.

Most garages in Pittsburgh have been designed for a live load of 75 lb. per sq. ft., but for this one 50 lb. was taken.

The cost came out at £607 per car space and the garage is all self-parking.

Continuous Parking Ramp. KENT STREET, SYDNEY, AUSTRALIA. A wall-less, flat ('Waffle') slab structure with a column grid of 26 ft. × 33 ft. The basic system is a long parking ramp with a separate circular ramp for descending traffic. 460 cars can be parked on the equivalent of nine floors, three of which are below the Kent Street level. There is a separate access to the lowest level.

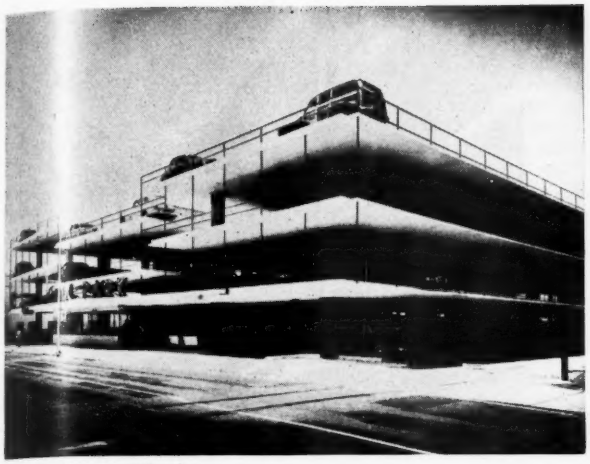
Spiral Ramps (Circular). DOWNTOWN CENTRE GARAGE, SAN FRANCISCO. This structure cost $2,250,000 and has 1,200 parking positions. ($1,875 per car stall). It is self-parking and access to all nine floors is by concentric ramps, an inner down ramp, 38-ft. diameter, and an outer up-ramp, 93-ft. diameter. The clearance between kerbs on up-ramp is 11-ft. and on the down ramp 12 ft. 6 in.

Filling stations are located on the first and fifth floors.

Washing, greasing and general services are on the first floor. The entrance lobby is quite spacious and its appearance is enhanced by large show cases leased by the better stores. Two automatic lifts deal with the customers although space has been left for escalators, should they become necessary. The one-way traffic aisles are 15 ft. wide.

The exterior columns on the two street frontages are placed 9 ft. back from the building lines and the floor slabs cantilever out 11 ft.

Discontinuous Ramps (Straight). PARKING GARAGE, MIAMI. By introducing a series of intermediate levels and overlapping the cars, the architects have saved some 12,000 sq. ft. (8 per cent of 145,400 sq. ft. total)



Parking Garage, Miami



Grant Park, Chicago

compared with a garage of customary design. This staggering of the floors overcomes what is, perhaps, the chief problem in the economical construction of parking garages—the space-eating factor of long ramps.

The intermediate levels are linked by short, fairly steep ramps 1 in 5, as compared with 1 in 10 in most garages. Higher ceilings than normal are required thus increasing the total cubic volume but since the garage has no outside walls, the extra cost of added height was small.

The entrance and exit ramps are completely separated. By this overlapping, six rows of cars are accommodated in 151½ ft. while a usual garage floor would have been 165 ft. wide.

Continuous Ramp (Straight). SHOPPING CENTRE GARAGE, WASHINGTON. This is a garage for over 600 cars erected just outside Washington in connection with a large shopping centre.

It is of the open shelf type with concrete ramps on the outside, and the customers to the stores can park their own cars without charge.

Underground Garages

Straight Ramp. GRANT PARK, CHICAGO. The Grant Park Garage was constructed and is operated by the Chicago Park District—a Department of the city authority. It comprises two floors below Michigan Avenue, known as the upper and lower levels. Parking is carried out by either the drivers themselves or attendants. The capacity of the garage is 2,359 cars. It is 1,200 ft. long, 375 ft. wide, and has a floor area of 880,000 sq. ft. Fresh air is brought in through intakes under the seats and terraced walls in the park above and is routed through a large plenum area under the full length of Michigan Avenue to the west wall grilles of the garage. There are 15 air changes per hour.

It is interesting to note that construction of this garage started in 1953 and the garage was opened in September 1954.

Straight Ramp. EDGBASTON STREET, BIRMINGHAM. This car park, which has a capacity of 125 cars, is of normal cast in situ reinforced concrete construction and situated under a public market hall. The park is for customer parking on a circulatory system and is divided into five main bays each 45 ft. wide and 160 ft. long, and accommodating 25 cars parked at 45 degrees to the aisles.

The grid of columns and load-bearing division walls is approximately 17 ft. by 35 ft. and the clear headroom under beams 10 ft.

The entrance to the park is by a 10-ft. wide ramp with a gradient of 1 in 9. The exit ramp is similar but with a rather steeper gradient. Pedestrian entrance stairways are provided and also two emergency exits.

The ventilating system is operated by two 45 h.p. extractor fans at low level drawing out air through ducts in the car park floor. The vehicle entrance and exit provide the air intakes. Both ventilation and lighting are normally operated by current supplied by the electricity authority but a 176 h.p. diesel engine coupled to a 100 kVA generator is provided to supply current automatically and immediately in event of failure of the normal supply.

Fire precautions consist of a wet sprinkler system and adequate hand appliances.

Offices are provided for the operatives and waiting rooms and cloakrooms for the car park patrons.

The present hours of opening are 5.30 a.m. to 11.30 p.m. week-days only and the parking charges are 1*s.* for the first hour and 6*d.* for each additional hour up to a maximum of 4*s.* per day. All-night parking is permitted and season tickets are available for regular users.

Spiral Ramps. MELLON SQUARE PARK, PITTSBURGH. This is a six-level parking garage beneath Mellon Square Park for 880 cars. Owing to the slope of the surrounding roads there are double-level entrances and exits and circular ramps lead from one floor to another.

Floors Nos. 5 and 6 are used by monthly parkers.

There are usually three attendants per floor, one dealing with the tickets.

The total number of staff per shift is between 18 and 22.

The turn-over of car spaces varies between 1½ and 2 per day in a six-day week.

The garage is fully ventilated. The cost per car space was about $3,750 (£1,330). On the one main road frontage is a row of high-class shops with a canopy projecting out about 6 ft.

The type of store has to be approved by the authority.

Mechanical Garages

Bowser. PARKING FACILITY NO. 1, CHICAGO. This garage fronts on to the two-level roadway 'Wacker Drive' and entrance is easily gained from both the upper and lower levels of the street. The garage has a capacity of 715 cars, with twelve floors above ground level and two below, and is of reinforced concrete construction.

The building is a series of shelves connected by the mechanical lifting equipment. This operates in a centre well, 21 ft. 6 in. wide, 145 ft. long, and 148 ft. high. There are five lifting arrangements moving both vertically and horizontally, enabling the car to be parked by an attendant in less than a minute in most cases.

There are no exterior walls or even parapet walls and safety is provided by steel cables which are spaced vertically between the first floor and the roof. Thus weight and cost are reduced.

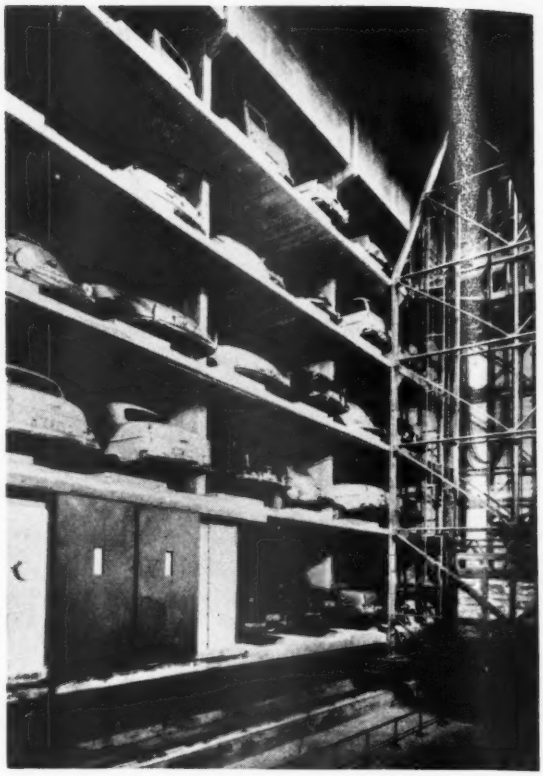
A good circulation of air within the building has been achieved by enclosing all landings with wire mesh.

A passenger lift for the convenience of motorists connects the two levels of Wacker Drive, and glass enclosed waiting rooms are provided for customers whilst their cars are being brought down.

The total cost was approximately £445,700.



Parking Facility No. 1, Chicago



Right: Autosilo, Karlsruhe

More than 11 miles of $\frac{3}{8}$-in. stainless steel cable in approximately 100-ft. lengths were used. Each cable is pulled taut by means of turnbuckles and springs. The strength is so considerable that a car travelling at 40 m.p.h. would easily be stopped by the cables, which are spaced at 8-in. intervals. By using these cables there was a big reduction in building costs and, of course, wall maintenance is eliminated because of the corrosion resistance and the great toughness which the stainless steel possesses.

Bowser. PARKING FACILITY NO. 8, CHICAGO (LA SALLE STREET). This again is a Bowser type garage having twelve levels. Eleven are for parking (each having 36 front row and 9 back row stalls) providing 495 parking spaces, plus a street floor reservoir with a space for 34 cars.

It was opened in October 1954.

The stalls are at an angle of about 70 degrees with the aisle. This was not due to the shape or dimensions of the site nor does it give any saving in space. It does, however, permit of easier approach to the stalls and hence faster handling.

On the exit side the departures are similarly facilitated.

The four elevators are correspondingly skewed, each serving approximately one quarter of the stalls. Mechanical devices prevent any collision between elevators but in an emergency it is possible for any elevator to enter the territory of an adjacent one.

When it is desired to deliver a car stored in a rear row stall where the front stall is also occupied, it is, of course, necessary first to move the front row car to another location, a time-consuming operation, but the practice generally is to park two-deep only when necessary and to use the rear stalls as far as possible for long-term parkers.

The elevators have a vertical speed of 250 ft. per minute and a horizontal speed of 150 ft. per minute.

Autosilo. PARKING GARAGE, KARLSRUHE, GERMANY. This is a typical autosilo structure holding 120 cars. It is a frame building, in two opposite parts with the car boxes arranged in rows with the shaft in between in which the conveyor equipment is housed.

There are automatic safety devices.

Stationary Lift. MECHANICAL PARKING GARAGE, WASHINGTON. One man at street level parks the cars automatically by simply pressing a button and similarly gets them out again.

The area of the garage is only 25 ft. × 64 ft. and there are 16 storeys, enabling 72 cars to be parked.

It takes about $1\frac{1}{2}$ minutes to park a car.

There are electronic eyes fixed to the lift exits so that if for any reason the mechanism fails to draw the car clear then the lift does not work and so damage to the car is avoided.

Lift and Trolley (part mechanical). PEARCE GARAGE, BIRMINGHAM. The general principle is attendant operated semi-mechanical. Orthodox lifts are used to convey cars vertically to and from upper floors, whilst hand-operated trolleys move them sideways, horizontally to the parking bays.

All lifts serve all floors, which facilitates maintenance, covers possible breakdown and gives maximum flexibility for handling peak traffic.

The hand-operated trolleys require very little maintenance and there is hardly any risk of breakdown.

The cars are kept square with the parking bays, runways and lifts, thus minimising the risk of damage.

The no driving on parking floors reduces the fire risk and greatly simplifies ventilation.

Acknowledgments

I am indebted for permission to reproduce photographs and information supplied from various sources as under:—

Diagram No. 1 and Details of Parking Standards: The Architect, London County Council

Diagram No. 2: The Trussed Concrete Steel Company Limited

Parking Study on La Salle Street Garage, Chicago: The International Road Federation

Parking Study, Hartford, Connecticut: Mr. D. N. Oliphant, Salisbury, S. Rhodesia

Photographs and Descriptions:

Kent Street Parking Station, Sydney: The Trussed Concrete Steel Company Limited

Downtown Centre Garage, San Francisco: The Trussed Concrete Steel Company Limited

Miami Parking Garage: The Trussed Concrete Steel Company Limited

Pearce Garage, Birmingham: Mr. Ralph S. Pearce

Autosilo, Karlsruhe: Mr. O. Swan (Messrs. Autosilo Limited)

Rotapark: Developers: Messrs. Griggs and Son Ltd.; Architects: Messrs. Shingler and Risdon; Agents: Messrs. Goddard and Smith.

VOTE OF THANKS AND DISCUSSION

Mr. J. H. Forshaw, C.B., M.C., Vice-President, R.I.B.A. (Chief Architect to the Ministry of Housing and Local Government and to the Ministry of Health): It gives me much pleasure, for several reasons, to propose a very warm and sincere vote of thanks to Sir Herbert Manzoni for his valuable paper on this important subject of public parking garages. We who live in London and come into London daily know the increasing problem. Sir Herbert speaks from a background of long experience of traffic problems and car parking in his own famous Midland city of Birmingham. It is because of this knowledge and his judgment of what is happening in this country and abroad that we have had the advantage of hearing his observations on the subject in a wide review of action in other countries as well as in this country, and a more detailed application within his own particular responsibilities at Birmingham.

I am sure that Sir Herbert is right in attempting to stimulate our interest and action by his American examples. There can be no doubt that our engineers are inspired by America's road planning, and by their 'mass transportation' as they call it. It is true that our two countries cannot be paralleled because of the great distances in the American continent. When we consider that the current American highway programme is 42,000 miles in 14 years, and already you can drive from New York to Chicago, 1,200 miles, without a cross road or traffic light, we realise that our new fast highway—announced this morning—is a very small matter in comparison.

I have mentioned this because Sir Herbert refers to the speed with which the United States are now tackling their problems. It is a long time since I was in America, but I imagine that in ten years we shall be looking at America's rebuilt cities, judging by the large-scale road and other developments that are taking place. It is of course the prosperity and resources which make this possible in their towns and cities, and we cannot overlook this vital aspect when we remember all the schemes we have on paper, and we hope ready to proceed, when the tide turns in our favour.

This policy and practice of the United States would appear to fit Sir Herbert's thesis that a car has two homes, one with the family and one near the place of work. I am going to refer especially to parking a car at home, and I hope that other speakers will speak on the major problems in the central areas. Sir Herbert Manzoni said that both should be as near at hand as is possible. The latter is being provided for in the United States where perhaps they are better able to pay the price.

In the American suburbs there is perhaps a lesson for us: there the car is accommodated easily and simply. But in high density housing redevelopment, provision is the exception rather than the rule. This applies equally to low and high density 'public housing' where it is preferred to leave the car exposed to wind and rain rather than to pay the price of housing it under cover. This also fits with Sir Herbert's statement that 'The simplest form of car park is of course a piece of vacant land with or without a cover, also it has the greatest capacity per unit of size.' I believe people are likely to be more and more reluctant to expend money on garaging; also it may well be that it is cheaper for the nation to accept 'off-street parking' as a permanent solution.

I would prefer it, however, if we could afford to cover in the 'off-street parking' lots, and my hope is that in high density redevelopment areas we shall find economical methods of covering in ground space, so as to provide for an adequate number of off-street parking lots. It would be wise also if in designing layouts we were to consider this problem as they do in New York, namely, design now for a required percentage and devise the layout so that the number of parking spaces can be doubled if and when required.

We must think of applying the 'super block' principle to high density housing to conserve space about buildings by minimising road areas. Locate off-street parking next to boundary roads and lay out the centre of sites as a pedestrian precinct. The United States can and do do this even with the large number of cars they have there.

I have related my observations to problems in residential areas where the needs increase considerably. Sir Herbert's figures for a Birmingham scheme are interesting. For example, the cost of car parking space at £1,337 per car is very near the price of a three-bedroom house, and the rates he gives, £27, are near to the rateable value of that house. These figures mean a rent of £71 per annum which is approximately 30*s.* per week. High cost indicates that such provision can only be made in those areas where the public is willing to pay the high prices, namely, in the centre of the city; but this willingness assumes relative ease of access to it and this requires highway expenditure in new capital works on the grand scale. In any case, for car-parking facilities in central areas to pay their way, they must also provide for the sale of petrol. This was so in pre-war days and it is probably likely to remain so.

I said when I rose to propose this vote of thanks that I did so with much pleasure and for several reasons. First, I have known Sir Herbert a long time. I know of his many successful works at Birmingham and of his great value in the professional world. He is an engineer, surveyor and architect, and I understand he is also a painter. I have much pleasure in proposing a sincere and hearty vote of thanks to Sir Herbert Manzoni.

Mr. Alexander Samuels, C.B.E.: As Chairman of the London and Home Counties Traffic Advisory Committee, a position which it has been my privilege to occupy now for some twelve years, I think I can honestly claim to have a vested interest of fairly long standing in the subject of Sir Herbert Manzoni's paper.

Perhaps the greatest source of traffic congestion in Central London today is the ever-increasing number of cars parked on the streets. A large proportion of these parked cars is left to monopolise the kerbside for long periods during which they may, and frequently do, prevent a large number of other vehicles moving freely through the streets, picking up and setting down passengers and the loading and unloading of goods. The road hog nowadays has become a sedentary creature, and is more often to be found not at full speed on the trunk roads, but squatting by the kerb in the city centres.

It is essential in the interests of traffic as a whole that these long-term parkers should be removed from the streets in the congested centres of our towns and cities, and in the long term this must be achieved by the provision of the proper amount of off-street parking space. I believe it might well be shown that, in present conditions, the improvement in traffic flow resulting from every million pounds spent on off-street parking facilities in Central London could be greater than that from a similar amount spent on road improvements.

For these reasons I have long been an advocate of an increase in the provision of parking garages, and I am deeply grateful to Sir Herbert Manzoni for providing us in his paper with such a lucid description of the need for such garages, and of the various factors and problems involved in their siting and design.

In particular, I am grateful for his extremely clear and interesting analysis of the relative advantages and disadvantages of the various garaging systems, a subject which can so easily be clouded by sales talk on one side or the other.

I was also much interested to hear that a multi-storey garage might almost be made to pay for itself. I should of course have been happier to hear that statement without the inclusion of the word 'almost', but in this connection it may seem appropriate to note that the Road Traffic Act of 1956 now makes it possible for a charge to be levied under certain conditions for parking on the highway and requires that the surplus revenue from such charges should be devoted to the provision of off-street parking accommodation. The Act, therefore, provides the means for an incentive to long-term parkers to seek accommodation off the streets, and also a means of assisting the provision of public garages for this purpose.

This excellent paper has therefore been presented at a time when it can be of great benefit, and it is with gratitude as well as the most sincere appreciation that I wish to second the vote of thanks to Sir Herbert Manzoni.

Mr. Sydney Clough [*F*]: I am lately back from the United States myself, and I should like to ask Sir Herbert whether he ever saw in the United States an embryonic mechanical device which could be placed on an existing flat floor, thereby using existing warehouse buildings in congested

city areas without a great deal of adaptation where the floor loads dictated. I think that it is a form of mechanical car parking which we shall see over here quite soon.

I agree with Sir Herbert when I gather he says that the Autosilo was perhaps the best of the mechanical devices.

I noticed in the United States that they are allowed to use a very great number of 'waivers', shall I call them, which the London County Council would not allow us in London. There are a number of different ramp gradients which we could use. There is one outside London having a 1 in 5½ gradient which is perfectly all right; but in Selfridges we are having to put in a ramp with a gradient of 1 in 10 which takes up a great deal of room when there is no need.

Mr. E. G. Kitching: The Trussed Concrete Steel Company have been doing a great deal of work on multi-storey garages, and I am glad to note that the material which we have collected agrees substantially with that mentioned in the paper.

It is also true to say that in all probability the garages constructed in the future will be of the ramp variety, with customer parking, and as far as construction itself is concerned, from the functional standpoint there is no need whatever for walls, because they bring in their train problems of ventilation, heating and so on. All that is required are simply flat slabs with ramps; but I think Sir Herbert Manzoni will agree when I say that the main consideration in all parking schemes is finance, because if they are not sound commercial propositions they will not be built or, if they are built, will be running at a loss.

As far as that matter is concerned, estimates which our company have produced now show that it is possible to build these garages—basic concrete structures—for about £225 to £275 per car space, and they show great hopes of producing the finished garage for something around £300 to £350. These garages will probably be built in situations where land cost is very high, probably three times as much as the building itself, and in some cases it will be necessary to have alternative forms of revenue. I would suggest the best way of obtaining it is not by the sale of petrol and oil, which have very fluctuating values, but by converting the ground floor into shops or other commercial premises where the rent can vary in proportion to the land cost.

However, as long as we have parking at the kerbside, it is an unfortunate commentary on our motorists that they will continue to park there. The long-term car parker is hogging the kerbside and is stopping the short-term parker sharing this facility. I would suggest that parking meters are perhaps the fairest means of allocating the small amount of space which is available at the kerbside, and forcing the long-term parker to use garage facilities.

Mr. Arthur L. Hall [*F*]: With regard to parking meters, I wonder whether they will be so effective. I can remember walking down the main avenue of Waikiki in Honolulu where there were several hundred meters, and everyone was signalling violation! How do you overcome that? Again, in Melbourne where the streets are very wide indeed one finds cars parked three deep. I have been locked in on the inside before now and have not been able to get out.

With reference to the question of financing the multi-storey car park, the downtown parking centre in San Francisco was, I understand, financed largely by stores in the centre of the city. You drive your car in there and pay a fee which is about 25 cents for an hour's parking. The first purchase made in any store pays it back.

Mr. L. W. Lane (Senior Town Planning Officer to the L.C.C.): I want to refer to the Central London problem where I think the question of parking is of really first-class importance, and perhaps one of the major problems with which we are confronted. I agree with Mr. Samuels when he states that off-street car parking can provide one of the major solutions of our parking problems, that is, if there be any solution. The problem of car parking falls into two parts. There are the standards of requirements for new buildings which have been evolved by planning authorities and, I think, are generally acceptable, although there was resistance in the first instance. We find now, with some gratification, that developers are inserting car parking facilities as bait to catch tenants when advertising buildings. That is great justification for this particular aspect of planning policy. Very often developers are willing to provide much more than the minimum standards which the London County Council lay down.

The other part of the problem is the provision of multi-storey car parks. I do not think that as yet we are near to a solution of this particular problem. A variety of issues are involved. There is, for instance, the political problem. One hears of local authority subsidised traders in one garage when another trader has no such subsidy. There are issues of economy and finance which are very difficult. We see that a garage might only just show a return and might even show a loss. One has to consider it in the context of fierce competition from other uses which can show bigger returns. For myself I cannot see how the State can ultimately avoid some form of subsidy. There are also problems of location, problems of cars emerging into the main traffic streams. Perhaps more important from the point of view of those present tonight, there are architectural problems.

As some measure of the problem, if there are 42,000 cars lying about the streets of Central London at the peak hour, and we assume that parking meters will attempt to remove half of them, we shall need parking space for some 20,000 cars. Taking an optimistic figure of 500 cars per garage, which is I think on the high side, that means 40 new major multi-storey buildings in London as a minimum to tackle this problem.

We have seen the examples from the United States and Germany. There are very few here, and it is in this direction that I think the architect can make his main contribution. It is necessary from the point of view of economics to have a simple building which will serve its function; but these strange new buildings will be part and parcel of the London scene. Here is a new challenge in terms of design as well as of economics. I should like to see an exhibition held on this aspect some time. I do not know whether it has yet been done on any scale.

Mr. D. A. Birchett [*F*]: It seems to me that there are two points of view. One is preventive action—to prevent cars going into the centre of the towns, and the other is encouragement. Taking the figures which have been given recently, the total population commuting to and from London per day is 1,250,000 of whom 400,000 work in the City of London. The estimates suggest that within the next five to ten years the figure for the City will have increased to 650,000 and a like increase for the rest of London. In the same period the increase of traffic will be 10 per cent on those estimates.

The chief problem behind this question of garage space concerns the economics of running the garages, and unless positive encouragement is given to operating them, nobody will be interested at all. That again raises the question of subsidy. I have heard it suggested that the ground floor could in fact be devoted to shops; but in fact, certainly in the inner zones, it is my view that if somebody who is already an established dealer in the motor trade is given an opportunity by the relaxation of present restrictions to use some part of the accommodation provided for car showrooms, servicing, and so forth, then I think the problem begins to be looked at in true perspective.

Mr. John Liversedge: I feel that this problem of car parking is 75 per cent an engineering problem and 25 per cent an architectural problem in terms of planning. The engineer is responsible for the roads and the traffic which runs on them, but immediately he gets off the road he says 'There we stop'. In town planning it is necessary to have much larger vision. It is necessary to see that when the car is put on the road and is normally parked at A the driver is able to drive off and to park at B. As things stand the poor car owner drives his car on the road and goes round and round looking for a space to park. That is most uneconomical in time and values. Therefore, if we try to analyse the subject, surely we come down to either keeping cars off the central perimeter of the city or, if they are brought into the central perimeter, parking space is found for them by the Corporation.

I have been fortunate in having been asked to design two garages, neither of which is self-supporting. No garage can be self-supporting unless the car owner is prepared to pay at least 10*s.* a day, and unless grants can be given for building

these parks, whether they be mechanical or ramp, we have to face the fact that they will not be economical, even with shops, petrol stations or other adjuncts. We are interested in hotel plus garage accommodation at the moment, but I feel this is a difficult subject which has to be tackled from a reasonable planning point of view. In other words, the Corporation concerned has to step in and say that you either keep your cars out or you bring them in and pay the price, whether subsidised or otherwise.

Mr. F. Risdon [*F*]: I disagree with a number of speakers who have referred to subsidies, because I can assure the meeting that at least one leading firm of garages would be prepared to build a garage anywhere in London without a subsidy and make it a financial success, on one condition, namely, that street parking is controlled by parking meters. I think there is a misconception about subsidies. They are not essential at all.

I should like to ask Sir Herbert Manzoni whether in his experience he has found that the English motorist reacts unfavourably to the manhandling of his car. In the United States the car is very much an expendable quantity whereas in this country each motorist tends to regard his car as being a veteran.

The vote of thanks was carried by acclamation.

Sir Herbert Manzoni: Mr. Clough referred to machines and the mechanical devices which can be used on existing sites. I gather he was speaking of these moving belt systems which we knew back in 1935. They have not been introduced to any extent in this country yet, and presumably they have not been successful enough to be very popular here. Whether they have been abroad or not I do not know. There is no reason why they should not, because they enable cars to be parked in a very small space, and the only disadvantage is the time taken if a number of people need their cars at the same time.

I was grateful to Mr. Kitching because he was the author of an extremely valuable and very practical brochure on this subject. Of course I would not say he is exactly unbiased in that type of garage!

He speaks of the commercial use of ground floors. Of course I think that some use of ground floors in high density areas is essential. Whether it would be reasonable to use the ground floor for the purpose of selling cars or petrol depends entirely on the circumstances and a great deal on the situation.

I am very interested to hear that it might be possible to build these structures at £350 per car space. I had estimated £400 as being the minimum.

Mr. Hall raised the question of parking meters. It is interesting and when you read this paper you will see that we made a survey in Birmingham on these lines. We estimated that they could be made to pay, but it has to be remembered that the local authority will presumably put up the car parks and they will be rated, and rates are very big items in the running costs. Those rates go back to the people who put them up. The very expensive ones coming out at £1,300 per car space could have been let at 3*s.* 6*d.* to 4*s.* a car space per day had it not been for the item of rates. I think that the figure could reasonably be in the neighbourhood of 3*s.* to 4*s.* if they are properly designed and revenue is taken from some portion of the building.

I think I made the comment in my paper that this form of building is at once a challenge to architects and a credit to those who have already tackled the problem, because there seems to be so little scope for variety; but when you look at some of the actual structures, great credit is due to the architects in the United States at all events, for the variety they have introduced into the parks, and the elegant and harmonious form which they have achieved.

Criticism of Work submitted for the R.I.B.A. Prizes and Studentships, 1958

By Peter F. Shepheard, B.Arch., A.M.T.P.I., F.I.L.A. [*A*]

Given at the R.I.B.A. on 4 February. The President, Mr. Kenneth Cross, in the Chair

Mr. Peter F. Shepheard: I do not intend tonight to make the customary long sermon which is usually made on this occasion. I think my prejudices will show quite clearly enough and the bees in my bonnet will buzz loudly enough as I go along. Therefore, I shall plunge into the middle of things and start straight away with the prizes. I am taking first those prizes which do not involve drawings, and they are not in any particular order.

First of all there are the R.I.B.A. Prizes for Public and Secondary Schools which I always think are one of the best ways of making young people in schools take an interest in architecture. On this occasion they have produced rather disappointing entries. (In fact, this will, I am afraid, be a sort of theme song all through.) It is not surprising, I think, that the entries from secondary schools are not as exciting as entries from architects; but it is sad, when there is a disappointing entry, for the winner, because he or she may feel that the win has not been a proper one. In this case the winning essay by Miss Diana Lee Smith was very good indeed. She had been excited by the finishing shed at the Wilton Royal Carpet Factory by Townsend, and she produced a good essay on it in which, among other things, she urged Mr. Townsend to leave out the walls. I am sure he would like to do so if he could.

So far as the Sketches were concerned, Mr. Colin Florentine Jackson of Whitehaven did some very creditable drawings of Southwell Minster, that wonderful church. The drawings were bold and convincing, particularly bold for one so inexperienced and so young.

The Prize of the London Association of Master Stonemasons (£50, for the study of natural stonework) produced entries which we thought were very limited in scope. There was too much historical stuff. The jury have said this before and they will go on saying it; but it is possibly because the conditions of the prize are not clear enough about how the work should best be done. I think there may be a chance that the jury will recommend that the prize should be discussed with those who give it to see if a slightly more urgent directive can be given in the conditions. These were nice drawings and in the end the jury awarded 20 guineas to Mr. E. S. Pluck and 10 guineas to Mr. C. Bennett for their good work; but we felt that if they had been better directed they could have done something more directly related to application of masonry and not just pictures of old bits of stone.

The R.I.B.A. Silver Medal and £50 for an essay brought forth only two entries. Neither of these was what we would have hoped for, but 'Giuliano' got the prize for what the jury described as 'a readable account of the present state of knowledge of the Norman architecture of Sicily'. He chose that subject prompted by the fact that he could not find any authoritative writing on it. It is a very good subject and a good reason for choosing it, and the jury added: 'the thesis could be consulted with advantage by anyone planning an architectural holiday in Sicily'. The jury expressed the wish that he had quoted his authorities as he went along, which would have made his essay a more useful and scholarly job.

'Thamesis' 'approached the subject of the York Watergate with considerable care and made one good point. Had he made two it would have been better, and one

would have hoped for half a dozen'. These, I fear, are the words of John Summerson; if he's on the jury, as Mr. Molloy would say, 'he'll give ye the life of a spud in the mouth of a pig'.

The Hunt Bursary, a Certificate and £95 for the study of housing and town planning, was awarded to James Cunningham. Again there were only two entries. The other entry by Denis Hanford was also submitted for the Florence Book Scholarship, and won it. James Cunningham receives the prize for a good set of drawings of planning work, and proposes to visit Sweden to study residential areas and their centres.

The Rose Shipman Studentship has a sum at its disposal of £600 for the study of architecture. There is no age limit, but evidence of suitability has to be given, and the money is awarded for research involving travel. Here again there were eight entries. It seems strange that only eight people want £600, tax free, for going on a holiday to Europe, but there it is! The jury say again that the general level is still not good enough for this substantial prize. There is a lack of entrants with sufficient previous knowledge, and there are naïve proposals. The programme must not merely outline some entertaining subject, but must show what the aim is and how the student proposes to accomplish it.

The winner was Haydn William Smith of Stockport. He proposes to study industrial buildings, and he showed a good example of an industrial building he had worked on himself in his firm. The jury warn him that his plan of campaign needs a good deal further thought; that he must not just scamper round the world taking photographs, but should plan his tour carefully and do some research beforehand. The jury also suggest that he should consult the Building Research Station on what line should be followed.

The Alfred Bossom Fellowships: again there is no age limit, and all that is required is evidence in the form of an essay or published work. There were three entries only, and here the jury contemplated withholding the award. However, Mr. J. F. Munce produced a great deal of written evidence showing that he had already done a considerable amount of work on his subject, which was 'The architect and nuclear energy'. Therefore he gets the Fellowship of £250.

The Henry Florence Research Scholarship. This is one of the new Sir Harry Vanderpant bequest scholarships in memory of Florence, and it is awarded every third year. There is no age limit, but there must be evidence in the form of an essay or published work.

There were four entries, and this time it was awarded to William Gough Howell for the study of prefabricated methods of construction applied to housing, and particularly to high flats. The jury was impressed by this entry and felt that Mr. Howell was exactly the kind of person whose experience and knowledge would fit him to do this work very well.

The Henry L. Florence Architectural Book Scholarship is 'to encourage and support the writing of books'. That may seem to be a doubtful aim. You remember how the preacher who said 'Vanity is vanity', went on to say 'of making many books there is no end'. However, these books have to be 'useful to the architectural profession'. Here again it is a good prize. There is no age limit, no restriction on publication and it is awarded on interview. One does not even have to be a member of the Institute for this one!

This was won by a remarkable entry from Denis Hanford. There were only two entries, but the prize goes to Hanford for a book on housing for which he has already collected an amazing amount of material. The jury described it as 'an unusually firm analysis of the background of housing in all its aspects and a remarkably compendious work'. They added 'for a man of 29', but then crossed it out! I agree with the jury. It is a remarkably compendious work. It is extremely detailed and well referenced, but in my opinion (and not the jury's) it is *prolix*, and *I* would advise Mr. Hanford to spend the £200 on the arduous but rewarding task of boiling down this large mass of material, so that it may eventually be read by the likes of me! I do want to suggest that such books must be written by the likes of Mr. Hanford, but the whole point of writing them is to get this information which is in the hands of these few industrious people into a form in which it is available, neat, cut and dried, for the busy, lazy and time-short characters like me! I think it is *very* important to keep any book concise; if this book is made concise it will be a most excellent work. The jury again suggests that Mr. Hanford should discuss the part of his book dealing with the cost of housing—a very useful part—with the Building Research Station.

The Henry Saxon Snell Prize and Theakston Bequest of £150 is for the study of hospitals, convalescent homes and homes for the aged poor, and it was not awarded. There were four entries and none were judged to be of sufficient merit to deserve the award.

So much for what might be called the research prizes. I have said several times how scanty and poor the entries were; and I must say again that I am astonished that nobody seems to want these great wads of money! Although I believe the reason is partly due to the fact that architects are so busy and so well off these days (laughter)—they *are*, you don't remember what things were like in the 30's—I cannot escape the thought that there may be something wrong with the prizes themselves. Should they be more carefully planned as part of a general policy of post-graduate research which perhaps the R.I.B.A. could foster? I know it is difficult with bequests, to rearrange them, and they were sometimes made many years ago in respect of subjects which do not appeal to people now; but a good deal has already been done towards bringing the R.I.B.A. prizes into line with modern conditions. I hate to suggest another committee, but perhaps there is room for one in order to deal with this matter.

The Grissell Gold Medal

Now I come to the prizes which involve drawings. The first is the Grissell Gold Medal and £35 for the best set of drawings illustrating the construction of a building of architectural merit. Here you have to be past the final but not have been in practice for more than ten years. This must be as principal, or as head of a government or municipal architectural department (which I presume leaves the Deputy Chief Architect of the London County Council another ten years after his promotion to chief! But I suppose anybody who has been building garages for ten years for his aunts will be disqualified!) What is wanted is a set of drawings of a smallish building, only 30 square feet of paper, but one has to show precise detail, so it is not an easy problem. There are only two entries and the Medal was not awarded.

'Sarnian' showed what the jury considered to be an inadequate set generally. He had too large a building to be coped with, and I think that that might be blamed on the jury for approving it; but his drawings were not sufficiently comprehensive. There were also some serious mistakes, such as the reinforcement running out from a floor into a cantilever and staying in the bottom of the cantilever. That happens in real life of course, but it should not get on to the drawings!

The other entry came from 'Yerba Buena', and at first he nearly hoodwinked us. He had a very pretty set of rather old-fashioned school-type working drawings showing no end of construction and services, etc. But first we saw how the end bay of his 3 ft. 4 in. grid needed the end panels cutting down, which hurt Bruce Martin; then his details for weathering on fascias were no better than they usually are on this type of building, and that hurt me. But the engineer on the jury who had been doing calculations behind our backs decided that there were serious faults in the structure, that the beams should have been twice their depth, and that the cantilever could not have taken the point loads applied to its ends. Why anyone should want to put point loads (all the columns of the façade!) on the ends of cantilever beams beats me altogether in any case.

The Owen Jones Studentship

The Owen Jones Studentship, a certificate and £250, is awarded for travel for the improvement and cultivation of the student's knowledge of the successful use of colour as a means of architectural expression. You have to be over 21 years of age, but there is no age limit otherwise. There were three entries, one of which, 'Todi', was in last year, and the jury again regret that they find themselves unable to award the prize. The entries require some comment.

One was 'Titus'. At first sight his sketches were charming. Certainly he has a habit of putting down a line on paper which is

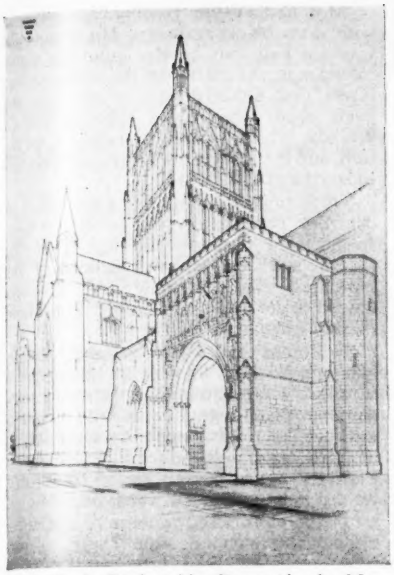


Fig. 1: Pugin Studentship. Perspective by Mr. Edward L. Preston [*Student*].

pretty in itself; but his drawings showed little sense of light and colour, and when one knew the place drawn—rose coloured Venice or the golden hill towns—one was disappointed. Assisi sits on her hill like a diadem and not, as 'Titus' suggests, like a wet blanket! His design for a market seemed to the jury to show just how *little* the colour was integrated with the building, and his essay was only a summary and not a critical essay.

The second was 'Barbarian', who chose Birmingham as his object of study. Anyone who chooses Birmingham as a colour subject endears himself to me at once. He obviously remembers Renoir's remark to Gauguin, who was going on about the need to go to Tahiti to paint, 'Why Tahiti? You can paint just as well at Batignolles'; and he was right, of course.

'Barbarian' did very good sketches, but the jury felt that they were not enough by themselves and that his comments on them did not amount to a thesis. His essay was again only a summary, but a good summary. I thought that 'Barbarian' came closer but the work was not adequate from the point of view of the prize and its conditions.

'Todi' has been here before. He gave the same entry as the last time with some extra work. Last year the jury commented on the narrow range of his palette—all sharp reds and aniline greens like a South African parrot—but Sir Hugh Casson was very kind to his drawings and even described them as 'ravishing'. They certainly are beautiful in their own way, but for me, who has the biggest possible bee in his bonnet about what drawings should be, they were not architectural drawings because they did not *represent the building*. They were ends in themselves. Some of his sketches, for example, that of Positano, were very pretty, but did not get anywhere near portraying the place or its *genius*. Nor was his model much use as a colour study. In fact, the extra work he did did him more harm than good.

Perhaps what these competitors most need to realise is that colour is light, and light is the raw material of architecture. Although one talks as if buildings were made of brick, steel and glass, what you see is the light which the materials reflect. In the dark there is no building. Too many buildings are made, or their architects set out to make them, of drawing, of ink lines or poster colour squares, or candlegrease textures. The drawing, instead of representing the building by capturing an illusion of the effects of light, actually tries to become the building itself and, of course, fails.

However, I do want to assure you that juries do not like not awarding prizes; they are as keen as mustard to give the money away, but they cannot be quite as keen as Pickles! Nor do they not award a prize because of a small entry, as the next prize shows.

The Pugin Studentship

This is the Pugin Studentship, a silver medal and £80. A splendid tradition of drawing is maintained by this prize, and there were two entries both of which in their own way were excellent. The jury had some bother with these two because they were both so good in utterly different ways.

E. L. Preston, the winner, made magnificent measured drawings of Worcester Cathedral (Fig. 1). While I believe that measured drawings are a good method of learning about architecture, and especially about classical buildings, it always seems to me rather a strange proceeding to reduce these vast Gothic churches to the sort of meticulous 3H pencil drawings which were certainly never made for their erection. There seems to me to be something of penance about the task which the Pugin sets, as if Augustus Welby himself had ordained it as an exercise in mortification of the flesh! Preston's drawings are so precise, laborious and painstaking that it makes my fingers ache to look at them. I suppose we must not tax this earnest man with vain expense and ill-matched aims. Nobody is more unworthy to criticise the sort of drawings which he has submitted than I, who look upon drawings as a means to an end, and a quick one at that! If someone so obviously unworthy as myself dare to criticise, I have just two nasty remarks. One is about some horrid little coloured ornaments like postage stamps which stain the white radiance of his sheets and, in my opinion, spoil them; and the second for really dreadful thick outline which he allowes himself to put round the masses in this otherwise staggering perspective.

His drawings of the bosses, as meticulous as before in shaded pencil, I particularly liked as they show the very splendid light effect, reflected upwards from the lower walls, which these strange sculptures enjoy. They were drawn on site, he says, and I can well believe it.

The next Pugin entry was G. E. Rhodes who is a completely different sort of fellow, but in his own way excellent. The jury recommend that he should have a Certificate of Honourable Merit. He had the idea of measuring a small and humble building, a barn at Burwell Priory, and he is really interested in the way such a building is put together. I think that the measuring of a humble affair such as this building is well worth doing; you may remember le Corbusier's advice, to measure the *backs* of buildings. This building helped Mr. Rhodes by falling down, whether as a result of his attentions or beforehand is not clear, but it enabled him to make a very interesting study of its anatomy, and he has presented this in an excellent series of drawings. The jury found it difficult to compare two such different efforts, but they would assure Mr. Rhodes that his choice of subject, although a small and humble building, is not at all unsuitable for the Pugin and may even be said (by me, for example) to be a better sort of subject for the student of architecture than the great cathedral.

Now for the design prizes; this year, the Tite and the Soane, part of that ladder of prizes for design on which so few appear to want to put their feet. Both these are two-stage designs, enloge and final drawings. The entries are, I think, not very good. I am not sure whether this is a fair remark to make, but I had the impression that if you went round the schools of architecture in England you would see a great deal of work which is every bit as good as this, and some much better. I should like to emphasise that the relation between the esquisses and the final scheme is very important, and I asked that the esquisses should be left up for all to see.

The Tite Prize

The Tite Prize is an intermediate prize which alternates with the Intermediate Design Prize. It is a certificate and £100. I well remember the heated debates about whether this prize should remain Italian or not, and how it was predicted that once there was an alternative modern prize, no self-respecting student would enter. All quite wrong; the entry was a big one, and the jury had a really difficult job picking the fifteen finalists.

I would congratulate those who set the programme, which was a good one. It is not easy to set a programme which will give a reasonable exercise in the Italian manner and at the same time will be useful to the modern architect. This one called for the reconstruction of a piazza of a small Italian town; a plan was given and with some buildings to keep, and some to go, and it was necessary to reconstruct the piazza and add a market hall and a campanile. The main difficulties were, first, to preserve that divine blend of accident and design which is the great Italian contribution to architecture. (Perhaps accident is the wrong word—the seizing of opportunity is a better description.) The second difficulty was to do a decent campanile;

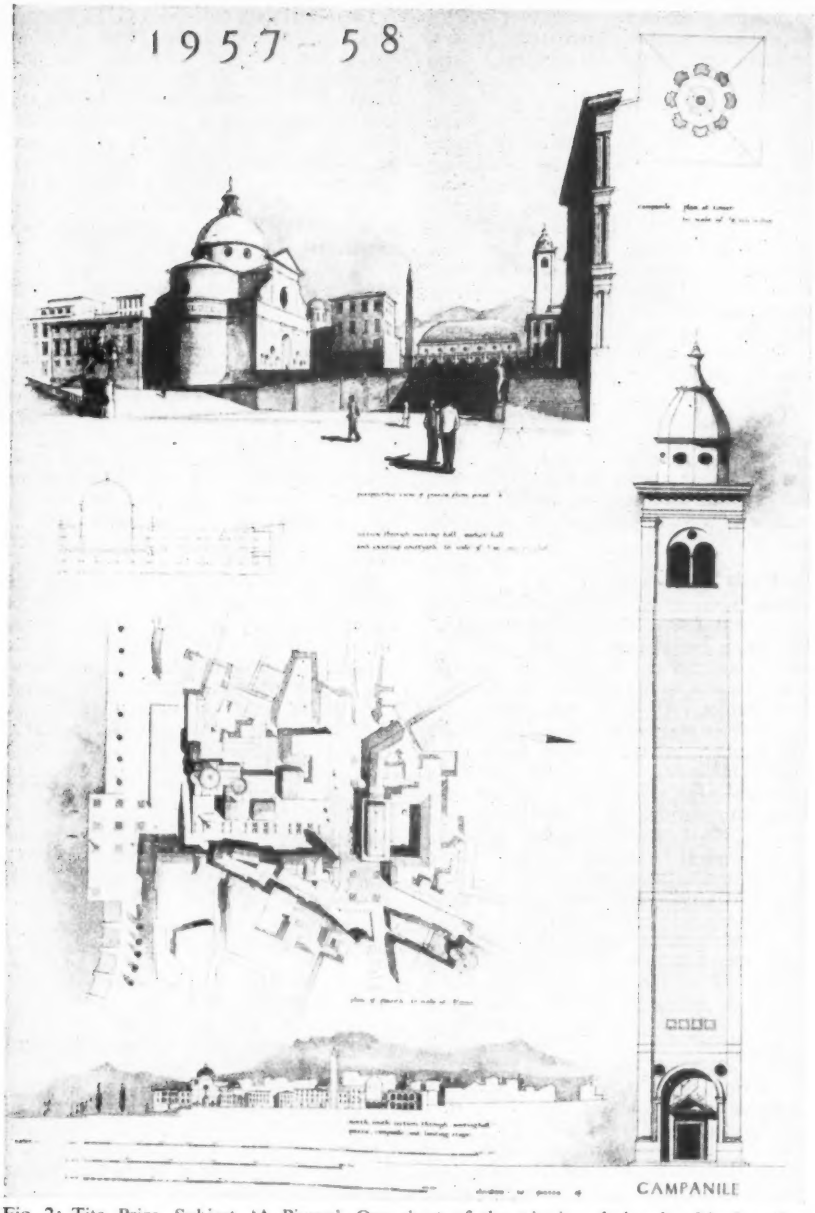


Fig. 2: Tite Prize, Subject, 'A Piazza'. One sheet of the winning design by Mr. Ian Rose [*Student*].

and the third to avoid the sort of landscape you get at Blackpool and Viareggio.

To begin with 'Toto'—no special order, so don't be sad, 'Toto'—he actually kept the buildings which he was asked to keep, but he hid them behind new buildings of his own. He must have thought the Piazza too big, which of course it was, but his new Piazza is too symmetrical and his buildings are not at all pleasant.

'Yaks's esquisse is more spirited than his final, as so often happens. He took great pains over his steps and groundwork in the Piazza, which were good. His buildings, although tasteful, were not at all Italian; strange to find in an Italian piazza these nice classical buildings from, say, the better parts of Dublin.

'Loxie' did a great Bernini colonnade. There was not really room for this in the Piazza (Bernini's colonnade is 650 ft. across, inside!) and after all we did hint strongly at Camillo Sitte and informal treatment. His campanile was shocking and looked like a pepper pot. It was only 170 ft. high.

'Narthex' had the only symmetrical design which I thought had any charm, but it was not quite enough, particularly in the elevations of his new buildings.

'Mol' had a rather gloomy vacant Piazza with deep black drawings. His campanile was not bad, but he was quite the worst offender in the matter of the sunken attic. (Over and again people drew attics set back from the eaves, like Palladio's basilica, which looked all right on elevation, and then had to cook their perspectives to see the attic at all.)

'Oppidum's buildings had a great deal of charm in perspectives, but he should have spent more time on the layout of the Piazza and less on the details of his buildings. His campanile and buildings tended to get duller and simpler in the final than in esquisse.

'Neslumas' had a strong Italian flavour of a simple kind, and his buildings had a simple Tuscan strength which was very suitable. We thought he was good all round until we got to his campanile. He made an arcaded campanile rather like the one at Pisa, and made it plain up to 60 ft., and we did not think that it came off.

'Twink' produced gorgeous colourful drawings which became rather overpowering in the final; they were better in the esquisse. The general character was good, but he had a very ugly campanile. He also had a naïve symmetrical layout on the ground which rather spoiled the effect.

'Oakhill' seemed one of the good ones, with that elusive Italian character. His campanile was only 170 ft. and his perspective made it look even sillier than it was. But his worst fault is the rather dreary layout of shops leading into the Piazza. He had the good idea of having a small constricted entrance to the Piazza, but unfortunately it was too long and narrow and became more like a corridor.

'Riccardo' had by far the best campanile. His would have been an excellent scheme except for the rather wilful misshaping of the Piazza. We could not understand why he had this very twisted shape of Piazza; at the same time he let his attic sink out of sight.

'Marco' was very impressive. His drawings—of knitting, rather like Topolski's—do capture the atmosphere, and he is one of the few entrants whom I would trust with a Piazza if I had one. His building is particularly well done and his attic very well designed, although again it is a little sunken and he cheats rather in perspective. His Piazza layout is rather dull, and if I (who like dullness) say it is dull, you can well imagine that it really is!

'Elderscroft' had a splendid esquisse. When the jury saw this they said, 'This is it; here is the one!' But when he translated it into the final drawings, he abandoned several of the nice ideas shown in his esquisse.

His charming arcaded hall, for example, is shown in the esquisse, but it gave way in the final to this very severe elevation. He had one of the better campaniles, but it too got more staid in the final.

'Chiz' had a very gay and spirited design. Not only did it get the atmosphere of ancient Italy, but it had a good deal of

modern Italy as well. The Piazza was not very well handled and seemed dull, and his campanile was not very good; but the whole atmosphere of his drawings was striking and very gay. This shows the kind of feeling he got into it. His market hall was a good building, but his fountains were rather poorly placed in the centre.

'Charity', I think, in some ways had a more original design of buildings than the winner, and we regarded 'Charity' as the runner up. He left his Piazza completely clear and rather vacant. We wanted the existing buildings left, of course, but we hoped for some breaking up of the lines of the Piazza by more intrusion of new buildings. 'Charity' is a good draughtsman, and if he can get more guts into his draughtsmanship, he will be as lively a draughtsman as 'Elderscroft', and perhaps even better.

Now we come to the winner, 'Ezekiel'. He has the sort of Piazza we wanted. He has the right amount of building-in, and he has thought about the floor layout. He has good things (Fig. 2) such as flights of steps, bollards, and all those things we described as the impedimenta of Italian piazzas. We thought that his campanile let him down a bit. He took for his market hall what I think is a cold crib of Palladio's Basilica at Vicenza, and it paid him very well. One had to explain to the more sensitive members of the jury that the gentle art of derivation, of how to crib and when not to, and how much is sporting, is now dead, and one might as well crib good and hard. It is a good method of learning after all!

You can see in the slide the Basilica with the attic at the right height.

The Soane Medallion

Now I come to the Soane Medallion. This shares with the Victory in alternate years the top place on the ladder of prizes next to the Rome. It was founded by the Royal Institute of British Architects in memory of Soane, that great architect whose work was referred to by a contemporary critic as 'mainly a system of grooves'. In addition to the Medallion there is an award of £120 and one must use it to tour abroad and make measured drawings and sketches.

The subject, which again merits congratulations, is a school of architecture for Oxford University in Christchurch Meadows between Merton and Broad Walk, north of the site proposed for the by-pass road. It is one of the best subjects set in recent years—familiar, interesting, manageable, with landscape and town planning implications, and a truly wonderful site.

Entries on the whole were disappointing. Several people did not even bother to draw the splendid surrounding buildings which are, of course, a backcloth to the scheme. Two competitors—and this belongs to the believe-it-or-not department—faced with this delicate problem in site planning and the relation of one building to another, actually lined their building up with—guess what! Not Merton, not Christchurch, not the Broad Walk elms, not even the new road, but *the edge of the handed-out site plan*! This was a misdemeanour so shocking that at first I, at any rate, disbelieved it. The site plan was grid north and south, and perhaps orientation came into it; but the plans showed no realisation that this was south and that was north. This was just another example of how one should never use, as Raymond Unwin said, a T-square on a layout plan. I will not even tell you who the offenders were; they know all right!

As for the schemes, there is insufficient time to comment really adequately, but I will try.

To begin, very inappropriately, with 'Tza-Tza'—he spells it with a 'z' as they do in Liverpool—his is a very complicated building. He tried very hard indeed to give individuality to the various elements, but in the end the building became disarticulated. The professor, for example, is far away from the rest of the school in an entrance lodge. The building has some good plastic qualities, but here again there is too much diversity—folded roofs, cantilevers, pilotis, all looming up very excitingly, but unfortunately the drawings were not in a finished state.

The next is 'Penralltddu'. Any scheme drawn on blue-grey paper with trees in Chinese white would start off on the wrong foot with me. It is hard enough to show architecture in two dimensions without deliberately inverting one's tone values to start with. But *was* 'Penralltddu' trying to show his architecture or was he trying to hide the lack of architectural quality in his scheme? For his scheme was weak in plan and in mass. His building did not appear to have been conceived as architecture. Everything just happened; all sorts of accidents, setbacks, and cheese-cuts do not add up to architecture unless they are organised; and one mosaic panel stuck on like the colonel's eye patch does not make an elevation!

'Oxon' really *was* a queer one. His esquisse was rather good; it had all the studios in one vast hall. But in the working out everything got bigger and bigger, until the jury were quite convinced that his elevation was drawn to twice the scale of everyone else's, just like that fantastic building by F. T. Pilkington in Victoria Street. It was not, however; and one must beg 'Oxon' to go back and look at the other drawings and think very hard about scale.

'Crayford' had an ingenious plan in the shape of a swastika, but he had to force it hard to get it there, and his elevations, 'in so far as they existed', as Austen Hall said about mine in this room 21 years ago, were again totally without scale. There were vast windows with no subdivisions shown on the $\frac{1}{8}$ in. although some appeared on the $\frac{1}{2}$ in. The $\frac{1}{2}$ in. was a very unconvincing drawing and did not show construction. The $\frac{1}{2}$ in. has to show how the building is built.

'Millbank' had a very ingenious and handsome arrangement of studios. He put them all together with separating partitions but roofed over in one high hall, with a gallery running round from which one could look down into the studios. Rather a chance perhaps for Big-Brother behaviour on the part of the staff, and rather like a Piranesi prison, but architecturally it looked very good! 'Millbank' made a great to-do about his roof lights to this hall, a system of splayed reflectors in a space frame all done to give a good quality of light. Soane himself would have liked this, but he would have found a simpler way of doing it.

'Kim' is the next, and I liked him better than the jury did. They said his elevations were depressing; I thought them modest and charming. Buildable, too, which was more than some of them were!

'Kim's esquisse was a rather dirty bit of paper—or it is now anyway—with blots, and drawn on it, apparently with a blunt poker, was a perfectly straightforward architectural solution to the problem, well arranged, economical, sensible but not, I am prepared to admit, madly exciting. His final scheme was spoiled by adopting a structural scheme which produced columns just inside all the windows and everywhere else where they could cause the maximum inconvenience. He had a lecture room next to the workshops, which was not so good; but I still think that this was a modest piece of architecture, which filled the requirements of the programme. He drew it all out on shiny plastic which doesn't help anyone.

'Elak' had a good plan which was rather original with the row of studios facing east, which is a good idea, and a well-arranged central crit room. (In my view the crit room should be part of the central circulation.) 'Elak's elevations were delicate but rather queer with a very strange system of first floor columns sitting on a beam, not over but *between* the ground floor columns. This may have been a good idea, but it did not look it to me. His trees did not help at all. When one is presenting a building in drawings this idea of trees made of some sort of stencil with a terrible texture of tweed is awful. It looks as though he has sat on it!

The runner-up was 'Marinetti'. He is a dazzler; all Zip-a-tone and tricks! One cannot tell which is inside and which outside. What do you think this boat shape is? A carpet! However, if you have the time to rassle it out, you discover, underneath all this art work, a feeling for architecture, a sense of scale and a plan which, though less simple and direct than his esquisse, has some good qualities. For example, the studios are well arranged with a well-placed crit room. A big disadvantage was the fact that it was necessary to pass the library in order to get to the lecture rooms. The elevations are drawn, or I should say pasted, in a 'Zipatonic' style which almost completely obscures their good qualities. They reminded me of a remark which my boy made, when he said he could not draw faces and then added 'except in flying

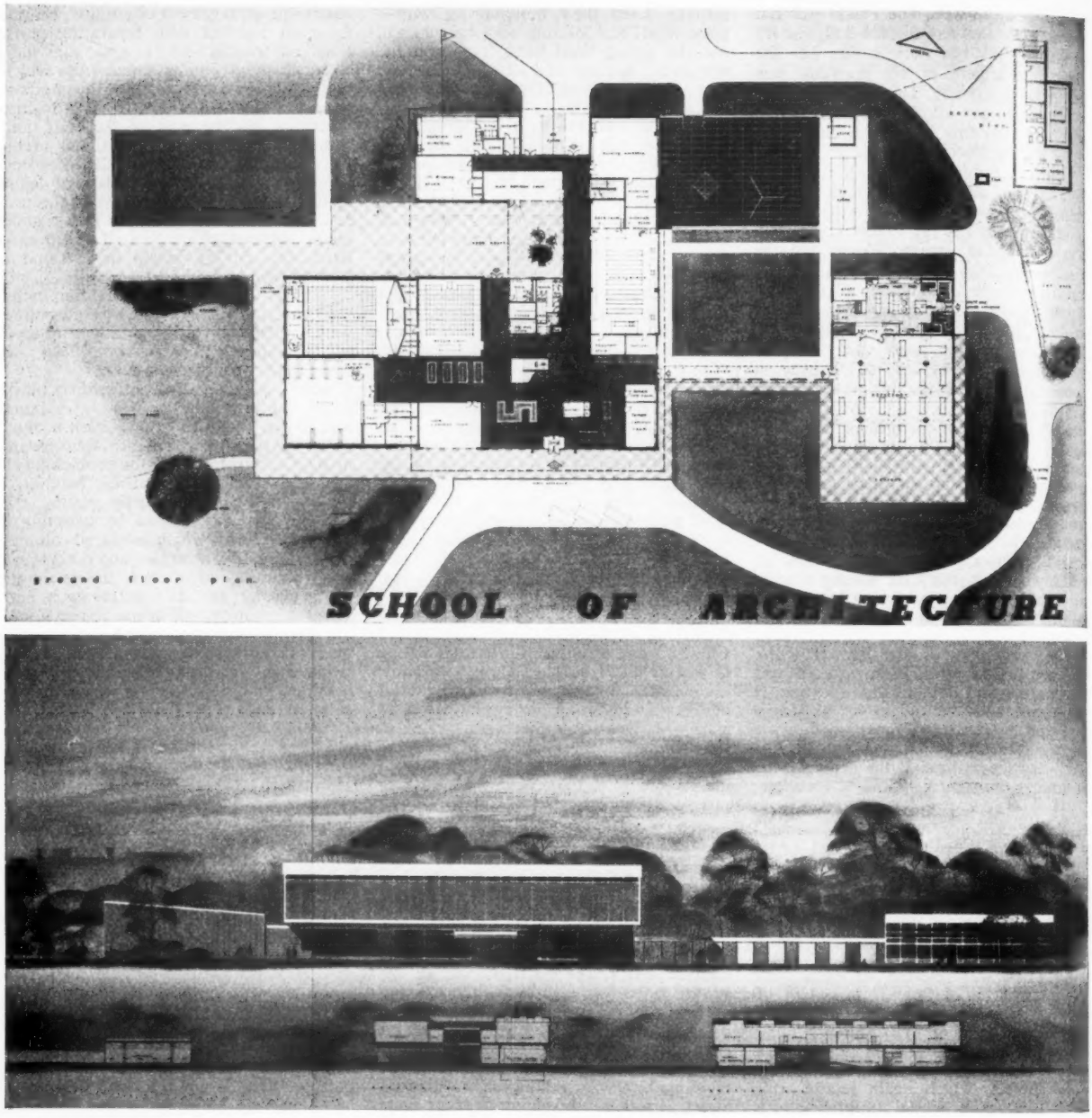


Fig. 3: Soane Medallion. Two sheets of the winning design by Mr. John S. Smith [*Student*]

helmets'. However, 'Marinetti' did draw the backcloth, and he *is* a sensitive designer.

The winner is 'Indigo'. He had an excellent esquisse which immediately sized up all the problems and was able to stick to it in the final plan. He has his buildings well placed, a very good segregation of various elements in the plan, good segregation of noise, and very pleasant courts. The entrance hall we felt at first was rather wasteful and not a nice shape, but we thought we had better say nothing about that because the jury asked for an entrance hall of this size! If we can criticise anything it is the bad sloping ceiling of the library, which has to slope because it is combined with the lecture room to make one architectural shape.

He has an excellent plan of crit room and studios, all grouped together, and a good ½-in. detail which shows that the building could be built. He has a very good elevation (Fig. 3).

I hope those at whom I have thrown bricks will not smart too much. I should like to make an appeal to students to try this sort of thing more often. I am disappointed at the entries; and it may be that present circumstances, and especially modern theories of education, militate against the competitive spirit; but all I can say is that any problem is better than no problem. Every encounter with an actual architectural problem is liable to teach you more and more, and surely these trial runs are worth while.

VOTE OF THANKS

Mr. Richard H. Sheppard [*F*]: I have enjoyed this criticism very much indeed, and I am sure you have also. I did not think that I was going to sit here comfortably for one and a half hours and enjoy hearing other people's work being criticised. One rather likes to do that sort of thing oneself! Therefore, I think we all owe Mr. Shepheard a debt of gratitude for giving us such a racy and vigorous criticism of the work. At the same time, he made ample acknowledgment in the course of his address to the members of the jury. I do not think you can realise how much time in total is taken up by considering all these prizes. For weeks and weeks tired, grey men stand up in those rooms and look at all these drawings one after another. My heart bleeds for them, and I cannot think how they get through it. If they all had taximeters on their backs the total number of hours they put in would run into thousands.

Secondly, I think we must also give thanks to Peter Shepheard for the criticism itself. Most of the criticisms that we have heard have been obese generalisations about 'We used to do this better when I was a boy', or incantations about architecture in one form or another. But Mr. Shepheard got down to a real criticism of the work and the programme which is very valuable. I daresay many of you feel that the jury have been unfair. There always seem to be two classes of people at schools of architecture; either those who will listen, talk and discuss the criticism with you, or those who say flatly, 'You do not understand it, but I am a genius!' One is always in a weak position there because they may be; but my experience is that geniuses do not come so thick on the ground at schools of architecture as many of the inhabitants seem to think!

If you smart under this criticism forget it, because we all have to have criticism, and I think that the function of the critic in society is very important. Appreciation of the arts—painting, poetry, music, drama, and so on—is vital for their health and vigour, and the work of a good critic widens and improves our own appreciation of whatever it is he is criticising. I think that today, generally speaking, public appreciation, for example, of literature, which we seem to specialise in in this country more than the other arts, is very good, and I think that to a large measure one has to acknowledge that it is the result of the work of critics in the last 60 or 70 years. Unfortunately, criticism of the visual arts is not on the same plane as that of the literary art. You have only to listen to a programme on the B.B.C. called 'The Critics' to realise that when they come to the visual arts the literary critics are lost.

Public criticism of architecture has become a feature of the leading Sunday newspapers and weeklies, and I think that it is most valuable as a method of stimulating the interest of the public in architecture, and I hope that it has come to stay. We as architects must not mind this criticism. We must take it and appreciate it and, by the same token, be able to take criticism from other architects often given publicly. I think that those points should be borne in mind if you are feeling sore at what Peter Shepheard has said.

I should like to propose a very hearty vote of thanks to Mr. Shepheard for his excellent criticism.

The President then presented the prizes.

London County Council (General Powers) Bill, 1957

An Outline of the R.I.B.A.'s Case as set out in a Petition to the House of Lords

THE ROYAL INSTITUTE submits that the whole of Part III of the London County Council (General Powers) Bill, 1957, is against the public interest as regards both economy and efficiency.

General Statement of Institute's Policy

From a continuous study of building conditions over the last ten years, the Royal Institute is convinced that uniformity of administrative treatment in regard to procedures for granting planning permission and By-law consents is of paramount importance. With the development of new materials and techniques in a continuous campaign to reduce the cost of building it is essential that the system of consents should be administered on a uniform basis over the nation as a whole. It is for this purpose that Her Majesty's Government cause model building By-laws to be issued for use throughout the rest of England and Wales. It is of the utmost importance that all By-laws shall be interpreted by authorities which are closely co-ordinated and have experienced administrators for the purpose.

Detailed Headings of Objection

In regard to Section 12 of the Bill in which the delegation of powers is permissive, the Royal Institute would not oppose the transfer of powers in regard to certain minor matters under Part III of the Town and Country Planning Act, 1947, on which the London County Council consulted the Royal Institute previously. It is, however, submitted that this Section imposes no restriction. It is the considered view of the Royal Institute that the wholesale delegation of planning powers to subordinate authorities is against the public interest as being likely to multiply the number of authorities to be dealt with. The matters proposed to be delegated are not set out in the Bill, but will be contained in a separate Agreement made between the London County Council and each Metropolitan Borough Council and with the consent of the Minister of Housing and Local Government. The added number of channels of communication required will further complicate the procedures for appeal and will aggravate an already difficult and time wasting procedure.

Sections 13 and 14 of the Bill are again permissive and give the London County Council full discretion to delegate all or any powers in connection with the London Building Acts to Metropolitan Borough Councils. It is submitted that already an appreciable factor in delay and cost in building in London is the lack of uniformity in interpretation of building By-laws, particularly as regards the exercise of discretionary powers in giving consents to the use of new materials and techniques. To the extent that these last are experimental it is essential for the protection of the public that powers should continue to be exercised centrally by a body of experts who can build up a volume of case history and record on which the informed exercise of such discretionary powers can be based.

It would be much to the advantage of the public if these records were edited centrally and published for the instruction of other would-be developers. The delegation of these powers to Metropolitan Borough Councils must inevitably make for lack of uniformity and must throw the responsibility on to an increased number of departments and officials where there will be less specialised experience, resulting in differences in interpretation. Further, the advantages of central co-ordination and publication of records could not be realised.

Section 14 appears to include powers to transfer to the Metropolitan Borough Councils the power given by Parliament to the London County Council to grant waivers. It is submitted that such a measure is bad in principle and would prove bad in practice by increasing the lack of uniformity in treatment. It is worth noting that outside London there is not, nor ever has been, any power of waiver by a local authority in the administration of local building By-laws.

Section 15 of the Bill is mandatory and will compel the London County Council to transfer their powers in regard to dangerous structures to the Metropolitan Boroughs. This can only add to administrative confusion. These matters should remain the responsibility of the London County Council, as hitherto.

The Royal Institute submits that this Bill constitutes a measure of possible future embarrassment in the light of the fact that Her Majesty's Royal Commission

on Local Government in the Greater London area is even now examining the functions of local authorities. There should be no enhancement of the powers of these local authorities at a time when their structure and functions are to an extent *sub judice* and until Parliament has had opportunity to consider the whole matter after reviewing the findings of the Royal Commission.

In the more restricted field of building legislation the passage of this Bill into law may well cause embarrassment to the London County Council's Advisory Committee on the Control of Construction of Buildings in London. This committee is now at work charged with the task of considering whether the present system of control of the construction of buildings in London under the London Building Acts and constructional By-laws requires alteration to meet the needs of modern building methods and techniques, having regard to the protection of the public.

Practice Notes

Edited by Charles Woodward [*A*]

DEPARTMENT OF HEALTH FOR SCOTLAND. Bulletin of Selected Appeals Decisions. The Department has issued Bulletin No. 2 dated January 1958, being decisions given by the Secretary of State for Scotland in appeals under the Town and Country Planning (Scotland) Acts, 1947 to 1954.

The cases cited give an indication of the principles upon which appeals from decisions of the local planning authority are decided, and are a useful guide to appellants who are dissatisfied with the way their applications have been dealt with.

There are 32 cases in this Bulletin which is obtainable at H.M.S.O., price 1*s.* 6*d.* The first Bulletin was published in October 1952.

COPYRIGHT ACT, 1956. Copyright to subsist in Her Majesty. The Act provides that in the case of every original 'artistic work' made by or under the direction or control of Her Majesty or a Government Department, the copyright shall subsist in Her Majesty.

'Artistic work' means (irrespective of artistic quality), (*a*) paintings, sculptures, drawings, engravings and photographs, and (*b*) works of architecture, being either buildings or models for buildings. Copyright in a work of architecture is additional to, and independent of, that in the plans for the building, which was decided in the case of Meikle *v.* Maufe.

'Government Department' means any department of Her Majesty's Government in the United Kingdom or of the Government of Northern Ireland, or any department or agency of the Government of any other country to which this part of the Act applies.

Copyright in an 'artistic work' to which Her Majesty is entitled continues to subsist until the end of 50 years from the end of the calendar year in which the work was made, and then expires.

The Act provides that the above provisions shall have effect subject to any agreement made by or on behalf of Her Majesty or a Government Department with the author of the work, that the copyright shall vest in the author. It should be remembered that the copyright in an 'artistic work' subsists in Her Majesty, and it would appear to depend entirely on what the author proposes under any such agreement, whether vesting of the copyright in the author would be agreed to. In the case of an 'artistic work', it may be that the rights of Her Majesty would not be relaxed, as this might mean that the employment of the author in any subsequent work in connection with the original building would be necessary if copyright was not to be infringed, or a licence by the author on payment of an appropriate fee if he was not to be employed.

There were similar provisions in the Copyright Act, 1911, which was repealed by the Act of 1956.

NATIONAL JOINT COUNCIL FOR THE BUILDING INDUSTRY. New Rates per Hour (as from Monday 3 February 1958).

1. Craftsmen and Labourers:

	London		Grade		Liverpool District
	Inner	Outer	A	A1	
	s. d.	*s. d.*	*s. d.*	*s. d.*	*s. d.*
Craftsmen ..	4 8½	4 8	4 7	4 6½	4 8½
Labourers ..	4 2	4 1½	4 0½	4 0	4 2

2. Apprentices and Young Male Labourers:

Apprentices

Age	Per cent. of Craftsman's Rate	London		Grade		Liverpool District
		Inner	Outer	A	A1	
		s. d.	*s. d.*	*s. d.*	*s. d.*	*s. d.*
15	25	1 2½	1 2	1 1¾	1 1¾	1 2½
16	33⅓	1 7	1 6¾	1 6½	1 6¼	1 7
17	50	2 4½	2 4	2 3½	2 3¼	2 4¼
18	62½	2 11½	2 11	2 10½	2 10¼	2 11½
19	75	3 6½	3 6	3 5½	3 5	3 6½
20	87½	4 1½	4 1	4 0¾	3 11¾	4 1½

Young Male Labourers

Age	Per cent. of Labourer's Rate	London		Grade		Liverpool District
		Inner	Outer	A	A1	
		s. d.	*s. d.*	*s. d.*	*s. d.*	*s. d.*
15	33⅓	1 4¾	1 4½	1 4½	1 4	1 4½
16	45	1 10½	1 10½	1 10	1 9¾	1 10½
17	66⅔	2 9½	2 9	2 8½	2 8	2 9½
18	100	4 2	4 1½	4 0½	4 0	4 2

3. Watchmen:

London and Liverpool 25*s.* 6*d* per shift. Provinces 24*s.* 3*d.* per shift.

4. Tool allowances:

Bricklayers: Twopence (2d.) per day to Bricklayers while manually performing bricklayers' work with their own tools and producing on all necessary occasions the tools prescribed in the approved list.

Bricklayer apprentices who are put to the expense of maintaining tools .. .. 2*d.* per day.

Masons while manually working or fixing dressed stone with their own tools and producing on all necessary occasions the tools prescribed in the approved list.

(i) Banker Masons .. 3*d.* per day
(ii) Mason Fixers .. 2*d.* per day.

WAR DAMAGE PAYMENTS. The Commission's Work in 1957. The War Damage Commission paid out £23¼ million during 1957 compared with £25 million in 1956 and £27¼ million in 1955. The average

weekly rate of payments in the last quarter of 1957 was £417,500.

The Commission paid 10,346 'cost of works' claims for repairs during the year, and made 4,381 payments on account or as instalments. The amount involved was £20 million of which about £2½ million was for the repair and rebuilding of houses. Other principal items were: commercial buildings, £5 million; factories, £3½ million; churches, £4¼ million; shops, £2 million.

The average amount of each claim paid during 1957 was £1,930 compared with £1,520 in 1956 and £1,070 in 1955.

Value payments amounted to £3¼ million, of which £522,000 related to houses.

Greater London's share of the total was £14¾ million.

Total war damage payments by the Commission now amount to £1,222½ million in 4,713,000 separate payments. Contributions by property owners during and after the war amounted to nearly £200 million.

The following details of amounts paid by the Commission during 1957 and the totals paid or agreed up to 31 December 1957 in the cases of certain non-commercial buildings may be of interest:

	Paid in 1957 £	Totals paid or agreed up to 31 Oct. 1957 £
Church of St. Clement Dane, Strand (The R.A.F. Church) ..	62,355	90,000
Church of St. Bride, Fleet Street ..	56,245	106,000
Carpenters' Hall ..	72,885	175,175
Clothworkers' Hall ..	100,230	255,141
Mercers' Hall ..	131,756	512,000
Guildhall, City of London	147,365	554,666
London Sessions House, S.E.1	81,215	128,748
Coventry Cathedral	105,954	1,050,923
Guildhall, Plymouth	84,000	293,054
Guildhall, Portsmouth	277,560	600,000
Church of St. Nicholas, Gt. Yarmouth ..	31,180	333,000
St. David's Cathedral, Cardiff	23,892	111,560

MINISTRY OF HOUSING AND LOCAL GOVERNMENT. Rates paid by cheque. In view of the changing public attitude toward receipts for payments made by cheque since the passing of the Cheques Act, 1957, and the consequent decrease in value to rating authorities of the receipt system for accountancy purposes, local rating authorities are being empowered, if they wish, to dispense with receipts for rates paid by cheque.

In a circular to the authorities the Ministry of Housing and Local Government points out that the Cheques Act has not removed or modified Rate Accounts Orders and Regulations requiring the issue of receipts. Since the Act, however, many bodies, both official and private, have ceased to give receipts and many ratepayers, therefore, will no longer expect them as a matter of course.

The circular, authorising local authorities to depart from the Rate Accounts Orders and Regulations in this respect, enables—but does not oblige—them to change their present practice. It also reminds authorities that neither the Cheques Act nor the circular relieves them of liability under the Stamp Act, 1891, to give on demand a stamped receipt for sums of £2 or over.

LAW CASE. Cruse v. Tidswell. New Streets Act, 1951. This was an appeal from the Magistrates' Court to Quarter Sessions Appeals Committee, the Magistrates having fined the appellant £10 and ordered him to pay £10 towards the prosecution's costs.

The Act provides that a person undertaking the erection of a building for which plans have been submitted for bye-law consent, on land fronting on a street not made up, must, before commencing building, pay to the local authority such sum as is required by a notice served on the owner, or secured to the satisfaction of the local authority.

The appellant is an architect and acted as agent for the owners of a plot of land fronting on to a street which was not then made up. Plans were deposited with the local authority under bye-laws and approved by them, and required the owner of the land by notice, served on the apellant, to pay or secure the sum of £170. This scheme was abandoned and a new design for a house on the same site was submitted under bye-laws, and approved by the local authority, but they did not serve a fresh notice on the appellant requiring the owner to pay or secure the sum of £170, and building on the site commenced without any payment being made.

For the appellant it was contended that it was the duty of the local authority to serve a fresh notice requiring payment, in respect of fresh plans submitted for the erection of the building on the site, i.e. that the notice relates to the proposed building and not to the site. No fresh notice having been served no offence under the Act had been committed.

For the local authority it was contended that they had only to consider frontage; once, therefore, plans had been submitted and a notice as to payment given, the notice remained in force and covered all subsequent plans for buildings on the same site, provided that the frontage remained the same.

The Appeals Committee dismissed the appeal holding that all the New Streets Act, 1951, relates to is frontage, but said that the point was highly technical and that the action of the appellant did not deserve any penalty whatever. They therefore gave the appellant an absolute discharge and made no order as to costs. (THE ESTATES GAZETTE, 1 February 1958.)

I.U.A. Notes

Moscow Congress 20–28 July 1958. The organising committee of the Congress have published the following provisional programme for the Congress discussions on the theme 'Construction and Re-construction of Towns 1945–1957'.

The discussions will be divided into two main headings—'The Plan' and 'The Realisation of the Plan'. The second subject will be discussed with regard to its legislative, economic and social aspects and also its technical aspect, which will include consideration of the contribution industry can make to building. The rapporteurs on these subjects will deal with the questions as they affect East and West Europe, the Far East, South and North America.

Simultaneous translation will be provided into and from English.

The inaugural session of the Congress will take place in the Session Hall of the Grand Kremlin Palace, and the working sessions will be held in the Assembly Hall of the University of Moscow. The Congress exhibitions, of which there will be four on view, will also be held at the University. During the Congress week, excursions will be organised in and around Moscow and visits to theatres and concerts are also being planned.

The registration fee for British architects attending the Congress is £6, for members of a delegate's family accompanying him (above the age of 16) £4. For architectural students on full-time or part-time courses the fee is £2.

The following travel agents are able to make all necessary arrangements for travel to and accommodation in Moscow: Thomas Cook and Son Ltd., 45 Berkeley Street, London, W.1 (GRO. 4000); Co-operative Travel Service, 4 Regency Street, London, S.W.1 (VIC. 2288); Dean and Dawson Ltd., 81 Piccadilly, London, W.1 (GRO. 3333); L. W. Morland and Co. Ltd., 5 Whittington Avenue, London, E.C.3 (MIN. 9663); Polytechnic Touring Association Ltd., 309 Regent Street, London, W.1 (GER. 6797); Progressive Tours Ltd., 100a Rochester Row, London, S.W.1 (TAT. 2152); Workers' Travel Association Ltd., Eccleston Court, Gillingham Street, London, S.W.1 (VIC. 6688). Application forms and further details can be obtained from the Secretary, United Kingdom Committee, I.U.A.

Working Commissions. A re-organisation of the seven Working Commissions of the I.U.A. has taken place. From now on one of the national Sections of the Union will be responsible for the secretarial work of each of the Commissions, and a delegate has been appointed in each Commission to be in charge of the work of the Commission and to report on its work to the Executive Committee. The Commission previously known as the 'Commission de l'Architecte' has been established as two separate Commissions—one on professional practice, on which the United Kingdom delegate is Mr. J. M. Austin-Smith [*F*], and one on architectural education, on which the United Kingdom delegate is Professor R. J. Gardner-Medwin [*F*]. Professor Gardner-Medwin has been appointed the rapporteur in charge of the Commission's work and the Council have approved the assumption of secretarial responsibility by the R.I.B.A. for this particular Commission.

A meeting between the newly appointed rapporteurs of the various Commissions was held in Zürich on 6 and 7 December 1957.

International meetings. Notice has been received that the following meetings will take place in 1958.

3–5 March 1958: Meeting of the Council of International Organisations (United Nations—New York).

May: Sixth Conference of non-governmental organisations collaborating with UNESCO—Paris. (The I.U.A. is one of these organisations.)

9–21 June: General Assembly of the International Standardisation Organisation—Harrogate.

16–21 June: Congress of the International Union of Family Organisations—Paris.

31 August: 24th Congress of the International Federation for Housing and Town Planning—Liège, Belgium (*see page* 174).

August: Congress of the International Federation of Landscape Architects—Washington.

Correspondence

AESTHETIC CONTROL

The Editor, R.I.B.A. Journal

Sir,—A recent case, which received more publicity than usual as it involved a well-known personality, helped to show up aesthetic control of architecture as an intolerable practice.

The case for aesthetic control and how it can work in practice has, to my knowledge, never been made. Any control based on theories, however praiseworthy, which in practice depends on the personal prejudices of those empowered to enforce it, is unworkable.

For the following reasons alone the case *against* aesthetic control in any shape or form is overwhelming:

1. It stifles architectural expression.
2. It encourages uniformity and discourages contrast.
3. It causes hardship to those affected: client and architect.
4. It usually discriminates against those who are exercising their traditional right of wanting to live in a house of their time.
5. It gives undue power of judgment to officials without aesthetic training.
6. It smacks of Totalitarianism and is in fact a characteristic adjunct of such a form of government.
7. It is humiliating to the architect and makes nonsense of his professional status.
8. It puts those architects into an invidious position who lend themselves to the distasteful task of sitting in judgment over their colleagues.
9. It rarely stops bad conventional building.
10. It often stops good unconventional building.

What is the case *for* aesthetic control?

Yours etc.,

PETER MORO [*F*]

SOME THOUGHTS ON PROFESSIONAL STATUS

DEAR SIR,—I was interested to read the paper 'Some Thoughts on Professional Status' in the January issue of the JOURNAL.

Like most of us, I am unhappy about the word 'Architect', which can mean anything from the originator of ideas and controller of the execution of building projects to a man who turns out routine drawings and specifications for which he has no personal responsibility.

The fault is, surely, that too many people are invited to qualify as architects. It might be better if the right to claim the title of 'Architect' were made more difficult; separate examinations being available for the qualification of 'Architectural Assistants'. In other professions the doctors have their nursing staff, the civil service administrator has his clerical workers, or the solicitor has his clerks—each of whom have separate, less highly skilled, qualifications from those of the principal in charge of the work.

If the present confusion in the public mind is to be eliminated, then the R.I.B.A., or some organisation under its control, must set examinations and administer the affairs of 'Architectural Assistants' with particular reference to education and salary scales, thus providing a way out of the present impasse. It may be that the ground covered by the present three years of full-time study leading up to the Intermediate examination would form a suitable syllabus.

Yours faithfully,

O. EVANS PALMER [*A*]

Hospital Building Bulletin No. 1 Operating Theatre Suites

AT THE R.I.B.A. CONFERENCE on the Design of Health Buildings which was held in October 1954, the Rt. Hon. Iain Macleod, M.P., who at that time was Minister of Health, said in his opening address ' . . . there is one development to which I think that I should refer, and it concerns the question of circulating information to you on various aspects of the Health Service—building design, construction and so on—which will reflect what is best in modern practice both in this country and elsewhere and provide for you some sort of guidance'. Since that time architects, and particularly those continually concerned in the design and construction of hospitals, have eagerly awaited the arrival of this information.

In January of this year the first Bulletin was published by the Ministry of Health and the Department of Health for Scotland. *Hospital Building Bulletin Number* 1* is entitled 'Operating Theatre Suites' and comprises ten sections in 71 pages of text covering all aspects of the problem of designing new operating theatre blocks for general surgery including, in addition to the general planning information, sections dealing with heating and ventilation, electrical installation, sterilising equipment, other engineering services, and last, but no means least, cost aspect.

There are 33 illustrations dealing principally with planning; the first one shows in some detail the important lines of circulation around which the design of the unit revolves, and this diagram is well supported in the text. Patient, staff and instrument circulation lines in operating suites follow a relatively set pattern, the problem being to organise them in a compact and self contained manner. However, it would appear that in the past the buildings surrounding these lines of circulation have varied widely in size, shape, standard of finish and consequently, cost. The publication under discussion is a courageous and very fair attempt to arrive at some nationally acceptable level of accommodation and equipment and the tables given, which show the appropriate areas for the different rooms, should be a great help in this direction. Indeed, the authors have been competently advised and have discharged the extremely difficult task of striking a balance between real efficiency and real economy in a reasonable manner. The succeeding drawings, which are in single line, have 16 devoted to the problem of the relationship of the rooms, one to another, in suites comprising one, two, three and four theatres. Eleven of the remaining, still in single line but to a larger scale, illustrate the layout of the equipment within the individual rooms. While commending the direct and uncomplicated presentation both of drawings and text, which serves admirably as a basis for discussion and reference for the technical and non-technical reader, could it not be that some animation in the drawings would have helped to capture the imagination?

The Bulletin does not set out to assess the influence of developments abroad, however such developments as the egg-shaped operating theatre are brought into the discussion and it is noted that the introduction of a system of central sterile supply, the need for which is keenly felt in many quarters here, may possibly lead to a simplification in design. It is heartening to note that the Ministry neither attempt to ' . . . provide plans with a rigid prescription of planning details . . . ' nor to lessen the need for ' . . . architects and engineers to consult and co-operate with local staffs of hospitals and others who are directly concerned with the production of individual schemes'.

The publication of this work comes at a time when a number of large projects are under consideration and it should, therefore, do much to help towards a rationalised approach to the problem. Reading it leaves one with the impression that the recommendations are well considered and fair, and that although the individuality of each problem must be recognised, the need is not for sheer austerity, but merely that initial thoughts should be kept within reasonable bounds. This attitude is surely to be commended.

R. O. M.

* *H.M.S.O. price 9s.*

Review of Construction and Materials

This section gives technical and general information. The following bodies deal with specialised branches of research and will willingly answer inquiries.
The Director, The Building Research Station, Garston, near Watford, Herts.
Telephone: Garston 4040.
The Officer-in-charge, The Building Research Station Scottish Laboratory, Thorntonhall, near Glasgow.
Telephone: Busby 1171.
The Director, The Forest Products Research Laboratory, Princes Risborough, Bucks.
Telephone: Princes Risborough 101.
The Director, The British Standards Institution, 2 Park Street, London, W.1.
Telephone: Mayfair 9000.
The Director, The Building Centre, 26 Store Street, London, W.C.1.
Telephone: Museum 5400 (10 lines).
The Director, The Scottish Building Centre, 425–7 Sauchiehall Street, Glasgow, C.2.
Telephone: Douglas 0372.

Storage Heating gives you Cheaper Heat from Off-peak Power. This pamphlet is for those who have not used any of the three storage systems, it is not a technical article but sets out to explain in principle the different systems: block storage, electric floor heating and hot water storage heating. In the pamphlet it is suggested that storage heating provides an economical and convenient method of heating and that the main advantages are that it requires no provision for fuel storage or ash handling, or for attendance.

The pamphlet is published by the British Electrical Development Association, 2 Savoy Hill, London, W.C.2 (Temple Bar 9434).

Soldering Aluminium, A.D.A. Information Bulletin No. 23. This Bulletin is the latest in the Association's series on the methods of joining aluminium and its alloys: so far there are three Information Bulletins, one on welding, one on brazing and another on riveting. The contents of the Bulletin include: basic principles of soldering aluminium, aluminium and its suitable alloys for soldering, solders, fluxes, soldering methods and equipment, soldering aluminium to other metals and properties and characteristics of soldered joints.

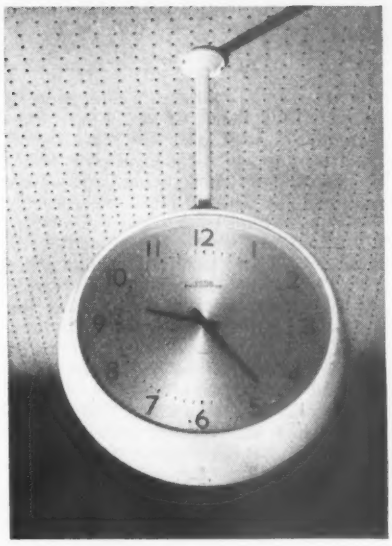
This Information Bulletin is available from the Aluminium Development Association, 33 Grosvenor Street, London, W.1 (Mayfair 7501). Price 2*s*.

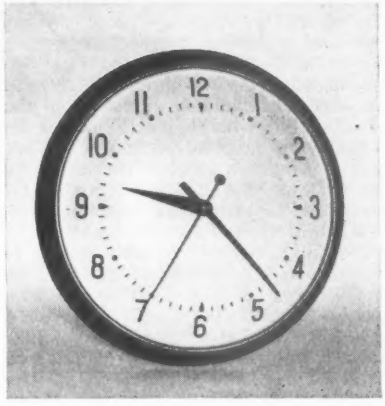
Timber Research and Technology. Advisory services in connection with certain fields of timber research and technological development, until now a responsibility of the Forest Products Research Laboratory, will in future be undertaken by the Research and Development Committee of the Timber Development Association. Activities falling under this heading include: standard strength, properties and structural uses of timber, identification and utilisation of species, prevention and treatment of decay and insect attack, kiln layout and drying schedules, production and commercial uses of plywood and utilisation of wood waste.

Inquiries for general information on these subjects should now be made to the Director, Timber Development Association Limited, 21 College Hill, London, E.C.4 (City 4771).

New Clocks. Smiths Clocks have recently produced four new designs, three for surface mounted wall clocks and one for a double-sided clock. Two of these are illustrated on this page. Smiths also have available: the larger interior/exterior clocks, advertising clocks, time recorders, bell signal clocks, watchman's clocks, time switches and process timers. The choice of wall clocks, from all manufacturers, is now considerable but surely more thought could be given to desk clocks!

Details from: Architects' Service Department, English Clock Systems, 179–185 Great Portland Street, London, W.1 (Langham 7226).





British Standards and British Standard Codes of Practice Recently Published

B.S. 1088: 1957. **British-made Plywood for Marine Craft.** Despite its title this Standard will be of value to those who use external quality plywood, untreated with preservatives, particularly when they are used near the sea. The Standard is actually of plywood for dinghies and sailing cabin cruisers, and for the superstructure of larger ships. It includes tables giving the properties of various species of timber; sets limits for manufacturing defects; and gives tests for quality of adhesives, bonding and moisture content. Price 10*s*.

The R.I.B.A. representatives on the drafting committee were Mr. G. Newell [*A*] and Mr. R. T. Walters [*A*].

B.S. 1252: 1957. **Domestic Solid Fuel Cookers with Integral Boilers.** This British Standard was first published under the title 'Solid Fuel Cookers and Combination Grates'. The change of title calls attention to the fact that the Standard is now concerned with appliances fitted with boilers for domestic hot-water supply. Apart from this change, the general scope of the revised Standard is similar to that of its predecessor but its requirements are much more detailed and the performance tests are more comprehensive. The appliances dealt with are free-standing cookers, side-oven and oven-over-fire combination grates and back-to-back grates. Price 7*s*. 6*d*.

The R.I.B.A. representative on the drafting committee was Mr. G. M. Kingsford [*F*].

C.P. 142: 1958. **Slating and Tiling.** This revised edition of the Code of Practice deals with: slating, tiling and asbestos-cement slating for roofs and vertical surfaces, together with the boarding, felt, battens and counter battens on which the tiles or slates are laid. It has been completely rearranged for easier reference and gives additional information on materials and fixing techniques. Price 7*s*. 6*d*.

The R.I.B.A. representative on the drafting committee was Mr. C. M. Vine [*F*].

C.P. 331.101: 1957. **Gas Service Pipes.** This revised Code of Practice takes into account developments, since the original edition was published in 1947, in the technique of installing gas service pipes and in the materials available for the purpose. The Code gives advice on the interrelation of gas service pipes with other public services and contains reference to protection against corrosion and to matters which require attention when laying, testing and inspecting gas service pipes. Price 4*s*. 6*d*.

The R.I.B.A. representative was Mr. George Fairweather [*F*].

Films

LOOKED AT AS A WHOLE, the films seen by the Appraisal Panel of the Films Sub-Committee during the last few years suggest that a medium which has great potentiality for teaching is not being adequately exploited. There are in fact comparatively few technical films of any real value either to the architect or to the student. The reason is that any technical content there may be is usually a by-product of advertising, for direct advertisement is still the *raison d'être* of the bulk of sponsored films.

Film is used today in the teaching of many disciplines. It has been particularly successful in medicine and the natural sciences and it has special value in any subject which demands practical demonstrations whose impromptu organisation presents difficulties. But if teaching films are to be effective they must be designed specifically to teach. If they are to be made with advertiser's money—the only likely source of sufficient funds to meet the high cost of film production—the advertising should be high-level 'prestige' advertising of the kind which made one or two enlightened firms world-famous between the wars. The building industry and the manufacturers who supply it spend a lot of money on direct advertisement of their services using film to demonstrate quality and methods, but they have not so far sponsored 'purpose-made' teaching films for use in schools of architecture.

The Sub-Committee recently sought to discover if such films could be made an integral part of the architect-teacher's stock-in-trade. To this end, they asked W. G. Howell [*A*] to study the complex problems of production, distribution and use which arise, and prepare a report. The result is a document of great interest, an extract from which appears below. The idea therein put forward that an attempt should be made to determine more accurately the educative value of existing material is now being put into effect. Some thirty schools responded to the Sub-Committee's invitation to take part in it, and a series of programmes of films selected for first-year students has been prepared. The scheme is that the schools will show these programmes at regular sessions and will report on them in such a way that the opinions of both teacher and students can be recorded. Because the number of copies at present available of some of the films included in this first series of programmes is limited, the experiment has been launched with five schools only, but negotiations are in hand with the distributors and it is hoped that sufficient copies will be available for the scheme to be extended to all schools which wish to be included by next October. Subsequently the Sub-Committee hope to be able to suggest series for second- and for third-year students.

The report points out that a great deal of worthwhile material exists on subjects which until now have not come within the scope of the R.I.B.A. Appraisal Panel. Appraisals of films on these 'fringe' subjects—art, mathematics, structure, physics, building science—as well as being of value to architectural students might well be of interest to members generally, perhaps particularly to Allied Societies. Films on these subjects have now been included in the Appraisal programme for this session. The Appraisal Panel has been enlarged to cope with the extra work and divided into groups each of which criticises films of one category. By this means the rate of appraisal has been increased; by the end of the session more appraisals on a wider variety of subjects will be included in the R.I.B.A. lists which will continue to be available to any member on application.

Extract from Report to Films Sub-Committee by W. G. Howell [*A*]

The Use of Films in Schools of Architecture

From my discussions with architectural teachers, and in the answers to the questionnaire sent out by your committee, I detect a certain ambivalence in the attitude of schools of architecture to films.

On the one hand there is a strong feeling that films, being an up-to-date technique, must *ipso facto* have a place amongst our teaching methods—the natural approval accorded to the technologically advanced by those who identify themselves with forward-thinking attitudes. One important aspect of this is the reaction of students. Students are, above all people, ultra-responsive to new techniques for their own sake. This makes films a good selling medium.

I have personal experience of this, in giving a series of lectures on drainage and sewage disposal. Even to architectural students, this subject is inextricably enshrined, alongside mothers-in-law and kippers, in the tradition of national music-hall humour, and is looked upon, possibly because of its ultimately invisible nature, as being beneath the notice of the high-minded art-architect. An introduction to the subject by means of films (including the excellent B.R.S. one on the single stack system) immediately kicks off on the level of building science and 20th-century technology, i.e. a good thing, and therefore worthy of serious attention by forward-thinkers.

The potential power of the moving-image/spoken-word/sound complex of the film exceeds any other known medium of communication. Furthermore we are now conditioned to receiving information, and emotional and aesthetic stimuli from the screen, whereas we no longer tend to produce such intensity of response to the lecture platform or the written word. We must also remember that part of the education of architects consists of opening their eyes, and a moving film can often do this to a degree quite unrelated to the subject-matter of the film.

All these factors tend to orientate architectural teachers and students towards a belief in films, which may in part be wishful panacea-hunting, but which is none the less heartfelt.

Against this positive and somewhat romantic belief in the film as an educational medium, we must offset a quite definite sales-resistance, which exists plainly and quite understandably in many teachers and heads of schools. Some of this is simply a healthy fear of canned information and assembly-line teaching. In part there may also be the fear of displacement by mechanical aids, not so much in the form of the spectre of unemployment, as in the natural reaction to the disrupting of direct human relationships—in our case the teacher/pupil relationship (the reaction to automation would seem to parallel both these fears).

Again much sales-resistance exists which is just that and nothing else—a hardening attitude as a result of seeing too many second-rate educationally useless advertising films. Any new film is sniffed at somewhat distrustfully—what is it trying to sell me? Experience of this kind of film has also bred a sense of disappointment, and a feeling that films are not as potentially valuable as one might like to think. Furthermore, films, being an irregular excrescence on the curriculum at present, are a nuisance. Few schools have lecture halls with fixed projection booths, and film shows require the moving about of electrical apparatus, perhaps moving to a different hall, a lot of organisation on the part of some member of staff, and additional expense. This is increasingly hard to justify for the shorter films, e.g. the 10-minute film, making a point to be amplified in class later on, a teaching technique envisaged by the committee, which I agree is potentially the best, but which does have this draw-back.

This seems to be a rough appraisal of the state of the market, and I feel that all the factors set out above, both positive and negative, must be taken into account in planning any future action.

The Use of Existing Material

(i) *A suggested experiment.* I have read with great interest the appraisal list drawn up by your Committee, and feel that the work they have done could be of great value in working out future policy if made use of to initiate a stage (ii) appraisal. This would take the form of trying it out on the dog.

It would be invaluable to the makers of any future films if consumer-reaction to known material could be gathered in the course of the coming academic year. This would be done by means of an observed experiment, perhaps on the following lines:

(*a*) a list of participating schools should be drawn up. There would seem to be no good reason for limiting the field, so perhaps the 59 schools who responded to the questionnaire might be circularised, to see who would be prepared to join in.

(*b*) A short syllabus should be drawn up from existing material. This could be directed at the first and second years, say, and for the purposes of the pilot scheme they might attend the same films at the same time. Alternatively there might be some films for each of the first three years. I have been through the existing list, and have marked a large number of films which could not fail to be of some use to the appropriate year. Films like the Stonehenge film, the 'Houses in History' and some of the more travelogue-like films could be of great value in the first years, especially when the film shows architecture remote from the particular schools. Even for those on the spot, they might open the eye to seeing the familiar in a new way, and would form excellent pre-visit material. There are three films on arches, one constructional and the other two specifically on Gothic arches, which could not fail to add understanding during the term when Gothic is being studied. Technical films would be related to the appropriate stage reached in the lectures.

(*c*) The syllabus should be presented in the form of 'programmes,' of approximately hour length, which would facilitate the allocation of time within the course. It might be recommended that they should be at a regular time, perhaps first period in the morning. The weekly

or fortnightly film show would be a definite draw, and might establish its popularity with teaching staff as a method of assembling the whole year at least once in a while, and at an otherwise unpopular time, such as before the coffee break on a Monday morning.

(*d*) The programmes should contain as many of the films which attained high assessments as possible, and none of those which obtained low ones. All the good ones seem to me to relate to some part of the Intermediate course. Also films of general interest should be included for their mind-broadening and eye-opening qualities. This would include films on engineering, art, perhaps modes of transport, and certainly industrial matter (like the Shell 'Stanlow Story'). Many films on handicraft processes, industrial and building techniques and equipment can do more than a day's visit to give a student the feel of the industry to which he will one day be related, and of which he sees so little during his training. This is not to suggest replacing such visits, but supplementing them, and leading to far greater understanding of what is going on when such an outside trip takes place.

(*e*) Each school would be asked for a report. A particular teacher could be made responsible within each school for the whole enterprise, or the master of each year involved might contribute. There is a great opportunity here for student participation, and reports from guinea-pigs would be invaluable. These should be sifted by the staff and students, so that a brief report could be produced appraising the value of

(i) each film (a single sentence almost per film)

(ii) the whole series.

(*f*) Advertising films should not be excluded, provided there is something in them which would contribute. The architect must learn some time to resist the blandishments of representatives and travellers, and to sift technical truths from the blarney. A few well-chosen words from the staff member present before such a film would make it into a lesson in discrimination, as well as an explanation of some process or material.

(ii) *The enlargement of the R.I.B.A. list.* A great deal of material which might be worth considering for use in the schools undoubtedly exists, which does not fall within the scope of the present R.I.B.A. list.

(*a*) *Structures.* The engineering world must have films on statics and the theory of structures. It would be a great help if they had some more advanced ones on aspects of structural engineering which involve movement, and are therefore more difficult to explain on a board, i.e. deflection, collapse and plasticity.

(*b*) *Physics.* As a basis for understanding building science, some films on the basic principle of heat, light (including colour), electricity, sound, hydrostatics, etc., would be invaluable.

(*c*) *Building Science.* This, of all subjects involved in building, is probably the one in which most *movement* takes place—the movement of physical forces within a static envelope. Films would therefore be by far the best way of putting such material across. Acoustics is an example, which seems to me almost unteachable without the use of films. The behaviour of a wave-front is difficult enough to explain on a board, but to try to put across its interaction with reflected paths is certainly beyond my powers of prestidigitation. Moving diagrams are obviously the answer here. It is quite possible that this has been tackled by someone —though possibly not in this country. There may be other fields, like lighting and heating, which may not have come into the appraisal group's orbit, in which films may already exist.

(*d*) *Mathematics.* An inquiry might unearth several films on the subject of mensuration, surveying, two- and three-dimensional geometry, calculus and so on. Mathematics tends to be looked on in schools of architecture as little more than a necessary evil to get students up to the requisite standard to pass the structures examinations. Mathematics as a mode of inquiry into, and a measurement of, three-dimensional space seems to be oddly overlooked in our present training. It seems to be that the most inhibiting factor to the development of non-rectangular and curved architectural forms, towards which there is plainly a psychological urge at the present time, is the lack of adequate mental equipment to explore and communicate such forms. The complex geometry of the bent slab (especially if doubly bent), the difficulty of exploring and giving definition to three-dimensional structures, the problem of locating points in space where non-regular shapes intersect, drive the student and architect back to the comfortable Cartesian world of tee-square and 90-degree set square. The aircraft, ship and motor industries, to whom this kind of thing is second nature, must look upon us as utterly illiterate in the field in which we claim ascendancy—the exploration and organisation of three-dimensional space.

(*e*) *Social science.* I have seen one anthropological film made by a French expedition, showing the lay-out and construction of a 'bee-hive' village in the Cameroons, which was a most enthralling exposé of how a primitive community solves its social and shelter problems with very simple techniques. There might be other films in this category.

(*f*) *Biology, crystallography and geology* might offer films in which, like D'Arcy Thompson's 'Growth and Form', complex structures occurring in nature were examined.

(*g*) *Art.* This is an enormous field, but very ill-covered by our curricula. It could be taught much better than it is by the use of films, chiefly because of the superb films that exist. One has only to recall the Emmer and Gras films ('Giotto' for instance), the Leonardo film, the Dutch films on Breughel and Reubens, and the Picasso film, to realise what a tremendous cultural wealth could be added to the course if these were shown in the schools. It is sometimes said that on general cultural matters the schools should not spoon-feed the students, and that if he is worth his salt he will pursue such matters for himself. This is a dangerous argument and could be applied to almost any subject in the course. The university teaching system has always aimed at a nice balance between the provision of stimuli and the leaving of students to study for themselves. At the present moment we are woefully failing to provide enough stimuli in the wider cultural field, and the results speak for themselves—an enormous proportion of the students leaving schools know little more than they had to for the exams. This is deplorable for the profession.

It would be worth preparing a list of suitable 'art' films and finding out how much they cost.

I should also like to add under this heading films which, while not taking art as their subject-matter, are works of art in themselves, e.g. the painted cartoons of Norman MacLaren, which are very short, visually very stimulating, very entertaining, and would add good spice to any programme.

It is difficult to know in what category to place the films of Charles Eames. They are works of art in themselves and are very relevant for architects; they should certainly be shown if they can be obtained.

Films added to the list as a result of such inquiries could be used in a second year's experiment of improved standard and enlarged scope.

Athletic Stadia

THIS HANDBOOK, prepared by a joint committee of the National Playing Fields Association and the Amateur Athletic Association, contains recommendations for the planning, construction and maintenance of running tracks together with the facilities for field events. With the greatly increased interest in athletics, both active and spectator participation, of recent times need for guidance in this matter was required and will be welcomed, undoubtedly, by all those who are concerned with the provision of athletic facilities.

Although a handbook of simple character, its pages do contain the essential information as to design and construction with the important additional information appertaining to maintenance which is so often omitted from such books. After consideration of preliminary siting and layout problems, which are most helpfully written up, the full requirements are exhaustively dealt with and it is noted that tracks should now be seven lanes in width. This additional lane enables sprint and hurdle events of under 440 yd. to be run on the outer six lanes without using the seventh lane so often badly loosened up by long-distance runners.

Other recommended alterations to previous published layouts concern the throwing areas for the javelin and hammer necessitated by the improved performances of recent years. Setting out of actual track, and the individual lanes for the numerous staggered starts, is well described both in text and illustrations. A sign of the times is the recommendation for photo-finish equipment to be installed on tracks where major international meetings are likely, but this does involve an alternative layout to enable a common finishing point for all track events.

Detail construction paragraphs are amplified by neat diagrammatical sketches which will serve as useful guides if nothing more. A valuable appendix gives an analysis of surface materials which has been prepared by Dr. S. G. Burgess, Ph.D., F.R.I.C., Scientific Adviser to the London County Council, whilst others list the minimum requirements for equipment for a fully equipped ground and give a catalogue of publications and drainings obtainable from the two interested bodies (N.P.F.A. and A.A.A.).

Finally, the reviewer wishes to record, with pleasure, his delight at seeing emphasis being laid on the point that a good specification does not necessarily result in a good job unless the work is efficiently supervised at all stages of the work. It is hoped the professional man concerned with any such work will take note and act accordingly.

JAMES C. KENNEDY [*A*]

[*'Athletic Stadia' is published jointly by the Amateur Athletic Association, 54 Torrington Place, London, W.C.1, and The National Playing Fields Association, 71 Eccleston Square, S.W.1, price 7/6, from whom information, advice and copies of the booklet may be obtained.*]

Book Reviews

English Art, 1625–1714, by *Margaret Whinney* and *Oliver Millar*. (Oxford History of English Art, series, vol. viii.) 9¾ in. xxiv + 391 pp. + 96 pls. Oxford: Clarendon Press. 1957. £2 10*s*.

This is the first volume in the Oxford History of English Art to be composed by two authors, the one a specialist in architecture and sculpture, the other in painting. There is much to be said against a dual authorship of this kind, because neither author is free to give us his interpretation of the period as a whole; each must work within compartments and refrain from delivering his imagination too liberally to the question of 'approach'. In a book claiming to deal with all the arts this is a grave limitation, because it virtually bars any treatment of the major problem, 'what does "art" in the current sense mean when applied to English society in the 17th century?' That question could only be answered by a wide-ranging treatment in which questions of social change, of class-structure and patronage, of the environment of genius, receive priority over specific problems of biography and attribution. It demands selective rather than comprehensive treatment and, moreover, the kind of selection which can only be exercised by a single author taking a good many risks of omission and taking them all on his own shoulders.

To this criticism of principle the most obvious answer is that the whole intention of the book—as indeed of the series to which it belongs—is to be specific and detailed, and to tidy up rather than to reach down. Accepting this aim and limitation, the joint authorship is a clear advantage and nobody is likely to question the scholarship either of Dr. Whinney or Mr. Millar. What, in fact, they have given us is a text-book of quite outstanding clarity and efficiency, very fully annotated, with a model bibliography. As such it cannot be too highly recommended.

Reading about English 17th-century painting and architecture between the same covers, one is struck by the paradox that whereas painting is always tending *towards* a national achievement, in architecture the achievement is *absolute*. Writing about a Dobson portrait at Castle Ashby, Mr. Millar (I presume) calls it the best thing of its kind 'before Hogarth'. Writing about Inigo Jones, Dr. Whinney (I presume) calls his architecture 'unmatched in northern Europe'. Dobson was a foot-hill, Jones a summit; yet they served much the same patrons, breathed the same intellectual air. It is the same with Kneller and Wren—a pigmy and a giant. How came it that, of the two arts, it was the more difficult, the more costly, the least amenable to experiment in which Stuart England excelled? Was it simply a case of the incalculable incidence of genius or was it that the architect, by reason of his technical responsibilities, was insulated from the more debilitating effects of patronage? It is a difficult question, but one which has a strong bearing on the total artistic character of the age.

In a book so massively replete with detail it is impossible to deal with specific points without giving a distorted impression of the whole. Of the detail about painters and sculptors I am in any case not qualified to speak. Of the architectural detail I can only say, as one whose studies have covered the same ground, that my points of disagreement are trivial and my agreement with the general drift is complete. The illustrations, too, are faultlessly chosen and arranged. JOHN SUMMERSON [*A*]

Le Corbusier: Oeuvre Complète, 1952–57, edited by *W. Boesiger*. 11 in. × 9 in. 224 pp. incl. illus. Zürich: Editions Girsberger. 1957. £4.

Today Le Corbusier is generally accepted as the outstanding artist-architect of the Modern Movement, and there can be little doubt that he owes something of his world-wide reputation to the successive volumes of *Le Corbusier: Oeuvre Complète*, a work which will hardly require introduction to students of architecture or, indeed, to the majority of the profession. More than a mere catalogue of Le Corbusier's buildings, the *Oeuvre Complète* sets out to record, in the fullest possible detail, all the many aspects of his aesthetic and social philosophies and, in the process, his complete development as an architect. It contains all his more important projects, executed or otherwise, his esquisse-drawings and perspectives, his plans for ideal cities, and extracts from his writings. Indeed, most of us are probably more familiar with his work as it appears on the pages of *Oeuvre Complète* than we are from studying the actual buildings themselves.

The first volume of the work appeared in 1930, and the book under review is the sixth in the sequence. It contains one of the most original and poetic of Le Corbusier's designs, that of the chapel at Ronchamp, to which 28 pages of the book are devoted. Also included are the more recent works at Chandigarh, notably the eight-bay Palace of Justice and various new Government buildings (57 pages); a museum each for Ahmedabad and Tokio; several small family dwellings, among them the Maisons Jaoul; and yet another statement of the *Unité d'Habitation* principle, together with plans and views of the completed Unité at Nantes-Rézé and also projected plans for further Unités at Berlin and Meaux.

In substance and in size, format and general arrangement, the book differs little from the five previous volumes. Le Corbusier himself contributes a characteristic Introduction and there is the usual French, German and English text, often very trivial in its content: but the latter will probably be regarded as secondary to the illustrations, of which there are 700 (only three of them in colour). My only major criticism of the book lies in its price, which would seem to place it beyond the reach of most students, surely the people who need it most.

DONALD TOMKINSON [*A*]

Christmas Lectures

THE TITLE chosen by Mr. Gontran Goulden, T.D. [*A*], for the two lectures which he gave to a large audience of boys and girls during their Christmas holidays was 'Other People's Houses'. As he considered the lectures should be a 'mixture of instruction and entertainment' he started with a film which had nothing to do with architecture. Made by the National Film Board of Canada, 'Fiddle-de-Dee' was an amusing kaleidoscope of constantly changing coloured lines and patterns 'dancing' to a jolly tune on a fiddle, played, so we were told, by an old fisherman.

Then Mr. Goulden got down to the instruction, though this too proved equally entertaining. His first lecture was on the 'Ready-made Home'—council housing and speculative builders' estates. Commencing with a brief résumé of an architect's work, Mr. Goulden recounted the development of large-scale housing since the 19th century, from the grim early attempts at council housing and the spread of speculative builders' 'bijou rashes', to the introduction of the garden city and modern architect-designed 'mixed' estates. This he followed by showing slides to illustrate his points. These were excellent, many were coloured, and varied from mean rows of 19th-century working class dwellings, builders' efforts in mock-Tudor, to slides of pre- and post-war continental and American housing, including Corbusier's Unité d'Habitation at Marseilles and the recent Berlin Interbau exhibition, and of our own new towns. He accompanied the slides with illuminating comments on the merits and demerits of the various designs. Finally he showed a selection of shopping centres to go with the modern housing, and concluded by hoping that even if his audience did not at first sight like the modern architecture his lecture would stimulate them to argument and greater observation.

Mr. Goulden's second lecture opened most entertainingly with an early Disney black-and-white film, 'Building a Building', featuring Mickey and Minnie Mouse and Peg-leg, complete with sound-track. With everyone laughing, the lecturer then showed a great number of slides of 'Houses Made to Measure' from the A.A. collection.

Starting with Blenheim Palace (in colour), and ranging by way of U.S.A., Scandinavia and back to Ham Common, Mr. Goulden in an easy, adult manner explained how changes in domestic planning came about, being particularly enlightening on the open plan.

He made the children aware of the exciting possibilities of contemporary design and the way to look at plans to see how they affected the client's way of life. They may not have been aware of it, but they were hearing some excellent criticism.

Afterwards there were a number of questions, several of which seemed to indicate that Mr. Goulden had whetted the appetite not only of future architects but of some potential clients as well.

The chairman was Mr. H. T. Cadbury-Brown [*F*].

Notes and Notices

NOTICES

Session 1957–1958. Minutes IV. At the Fourth General Meeting of the Session 1957–1958 held on Tuesday 4 February 1958 at 6 p.m.

Mr. Kenneth M. B. Cross, M.A., President, in the Chair.

The meeting was attended by about 500 members and guests.

The minutes of the Third General Meeting held on Tuesday 7 January 1958 were taken as read, confirmed and signed as correct.

The Hon. Secretary, Mr. Basil Spence, O.B.E., A.R.A., A.R.S.A., presented the film of Coventry Cathedral and Mr. Peter F. Shepheard, B.Arch., A.M.T.P.I., F.I.L.A. [*A*], read his review of the work submitted for the Prizes and Studentships, 1958.

On the motion of Mr. Richard H. Sheppard [*F*] a vote of thanks was passed to Mr. Shepheard by acclamation, and was briefly responded to.

The presentation of prizes was then made by the President in accordance with the Council's award.

The proceedings closed at 7.54 p.m.

Science Lecture, Tuesday 25 March 1958 at 6 p.m. There will be a Science Lecture on Tuesday 25 March 1958 at 6 p.m., when Mr. Eric Lyons [*F*] will read a paper on 'Domestic Building and Speculative Development'. (Light refreshments will be provided before the lecture.)

British Architects' Conference, Newcastle upon Tyne, 14 to 17 May 1958. A cordial invitation is extended to all members and Students of the R.I.B.A., the Allied Societies and the Architectural Association to attend the Conference to be held at Newcastle upon Tyne from 14 to 17 May. Full details of the programme and the application form are enclosed with this issue of the JOURNAL sent to members in the United Kingdom. Students and others requiring a programme should apply to the Secretary, R.I.B.A.

Application forms should be completed and sent to the Secretary, R.I.B.A., as soon as possible, but in any case *not later than* 25 *April*.

Members are again reminded that hotel reservations should be made as soon as possible as the hotels could not guarantee to keep rooms later than 28 February.

Kalendar 1957–1958. Corrections. In the 'Local Distribution' section of the current edition of the Kalendar, the names of the following members are incorrectly shown on page 827 under 'Arabia'. The names should, of course, be shown under '*PERSIAN GULF*' as follows:

PERSIAN GULF

ASSOCIATES

Hogan: B. D.
King: G. J.
Lambourn: R. A.
Ogden: T. E.
Scott: A. T.

On page 839 the entry: Institute of Northern Rhodesian Architecture should read;

Institute of Northern Rhodesian *Architects*.

Associates and the Fellowship. Associates who are eligible and desirous of transferring to the Fellowship are reminded that as from 1 January 1956 all candidates for the Fellowship will be required to submit to the Fellowship Examiners drawings and photographs or examples of work. Candidates may also be required to attend for an interview, which may however be dispensed with at the discretion of the Fellowship Examiners. The necessary nomination forms may be obtained from the Secretary, R.I.B.A.

Licentiates and the Fellowship. By a resolution of the Council passed on 4 April 1938 all candidates whose work is approved are required to sit for the Examination, which is the design portion of the Special Final Examination, and no candidates will be exempted from the Examination.

Note.—The above resolution does not affect Licentiates of over 60 years of age applying under Section IV, Clause 4 (*c*) (ii) of the Supplemental Charter of 1925.

Members and Professional Affixes. The Council's attention has been called more than once to the practice among some members of adding a string of letters of doubtful value to the affix indicating membership of the Royal Institute on their letter paper.

This is a matter in which the Council obviously cannot dictate to members, and must trust to their good sense. It should be obvious, however, that the affix of a chartered body of high standing is weakened in effect by the addition to it of a string of other mysterious designations, some of which probably indicate no more than the payment of an annual subscription.

Shapes and Sizes of Technical Literature. Postcards for use by members asking manufacturers to produce technical literature in accordance with B.S. 1311: 1955 are available from the Secretary, R.I.B.A., on application.

Cessation of Membership. Under the provisions of Bye-law 21 the following have ceased to be members of the Royal Institute: *as Fellows:* Francis Berrington Blomfield, Sadashiv Raghunath Yardi; *as Associates:* Richard Stanley Dewey, Patrick John Vincent Gordon, Myrddin Rhys Griffiths, Alan Causey Jones, Thomas Alexander Larkin, Cyril Charles George Osborne, Madhukar Anant Rege; *as Licentiates:* William George Smale, George Arthur Roberts, John George Sutherland.

COMPETITIONS

Civic Centre, Ipswich. The Corporation of the County Borough of Ipswich invite architects registered under the Architects (Registration) Acts and resident in Great Britain, Northern Ireland or the Republic of Ireland, to submit in competition designs for a new civic centre to include municipal offices, civic suite, law courts, police station and public hall to be erected in Ipswich.

Assessor: Mr. S. Rowland Pierce, Dist.T.P. [*F*].

Premiums:
(1) Preliminary Stage—six competitors will be selected to proceed to final stage. Each will receive the sum of £300. Last day for submitting designs: 25 August 1958.
(2) Final Stage—the author of the design placed first will receive £1,200. Last day for submitting designs: 19 January 1959.

Last day for questions: 19 May 1958.

Conditions may be obtained from the Town Clerk, Town Hall, Ipswich on or after 17 March 1958. Deposit £2 2*s*.

Any applicant for the Conditions must state his registration number or the number of the receipt issued to him by the Architect's Registration Council in respect of the admission fee.

Design of Wooden Office Furniture. The Timber Development Association invite designers working in collaboration with furniture manufacturers to submit designs for a range of office furniture and for individual items of furniture.

The competition will be judged by the Assessors in two stages. In the second stage prototype furniture has to be submitted.

Assessors: Professor Robert H. Matthew, C.B.E. [*F*], Professor R. Y. Goodden, C.B.E., R.D.I. [*A*], Mr. O. G. Pickard, Mr. B. McGeoghegan, Mr. D. A. C. A. Boyne, Mr. E. Levin [*A*].

Premiums: £500 for the design of a suite or unitary system of office furniture. £100 for the winning design for each of the following items: Desk for typists; Desk for junior grades; Desk for senior grades; Chair for general office use; Filing units.

Last day for questions: 15 May 1958.

Last day for submitting designs in the first stage 29 August 1958.

Last day for submitting designs in the second stage 27 February 1959.

Intending competitors should write before 30 April 1958 to 'Office Furniture Competition', Timber Development Association Ltd., 21 College Hill, London, E.C.4, enclosing a cheque in favour of the Timber Development Association for half a guinea for each design to be submitted.

Reinforced Concrete Factory Building. Last date for submitting designs: 1 April 1958.

Full particulars were published in the JOURNAL for December, page 69.

International Competitions

Competition for a Monument to General Rivera. Notice has been received from the International Union of Architects that an international competition has been organised by a national committee in Montevideo (Uruguay) for the erection of a monument in honour of General Rivera.

The Sociedad de Arquitectos del Uruguay were not consulted and the regulations do not conform to the I.U.A. Regulations for International Competitions.

Members and Students are accordingly warned not to take part in this competition.

The conditions of the following competition have been approved by the International Union of Architects:

City Hall and Square for Toronto, Canada. Some particulars were published in the JOURNAL for October, page 511, and additional information in the JOURNAL for November, page 31.

Last date for dispatch of submissions in the preliminary competition: 28 March 1958.

Last date for dispatch of submissions in the final competition: 29 August 1958.

COMPETITION RESULTS

Development of the Leith Fort Housing Area

1. John E. Baikie [*A*] and Associates.

2. Robert Matthew C.B.E. [*F*] and Johnson-Marshall C.B.E. [*A*].

3. Rachel Wilson, Albert Abbott and Margaret Justin Blanco-White [*AA*].

Hon. Mentions: Ian Burke [*A*]; I. D. Haig [*A*] and J. R. Marshall [*A*]; Alison and Hutchison [*F*] and Partners [*AA*].

Quaid-e-Azam Mohammed Ali Jinnah Mausoleum at Karachi

1. Raglan Squire and Partners [*F*/*L*/*A*] London.

2. (Two awards) Pierre Dufau, Paris, and Paul Herbe, Paris.

Highly commended (with award): Messrs. Andrault, Parat and de la Tour d'Auvergne, Paris; Messrs. Naqvi and Siddiqui, Karachi; Messrs. Primakoff, Marett, Thariani and Ankolkar, Karachi.

Highly commended (without award): Messrs. Flurin and Andry, Bienne, Switzerland; Brian Meeking [*A*], London.

ALLIED SOCIETIES

Hampshire and Isle of Wight Architectural Association, Eastern Chapter. Hon. Secretary, Gerald B. Piper [*A*], Room 8, Portland Chambers, Fareham, Hants.

Royal Institute of the Architects of Ireland. President, Thomas P. Kennedy, 8 Merrion Square, Dublin.

Birmingham and Five Counties Architectural Association. Annual Dinner and Dance. The annual dinner and dance of the Association was held at the Grand Hotel, Birmingham, on Friday 31 January. The President, Mr. Herbert Jackson [*F*] was in the chair.

Among the guests were Mr. Harold Conolly, C.B.E., Vice-President R.I.B.A., the Suffragan Bishop of Aston, the Rt. Reverend C. G. St. Michael Parker, the Lord Mayor of Birmingham, Alderman J. J. Grogan, M.B.E., the Lord Mayor of Coventry, Alderman Pearl Hyde, Commander the Hon. Humphrey Pakington, O.B.E., D.L. [*Retd. F*], and Mr. W. R. F. Ellis, O.B.E., Deputy Secretary R.I.B.A., and Mrs. Ellis.

The toast of The City was proposed by the President of the Association and responded to by the Lord Mayor of Birmingham who also proposed the toast of The R.I.B.A. and its Allied Societies. Mr. Harold Conolly replied. The toast of Our Guests was proposed by the President and was responded to by Commander Pakington.

Bristol and Somerset Society of Architects. Annual Public Lecture. The Society's annual public lecture was held at Bristol University on 11 February, when Mr. Peter Chamberlin [*A*] of Messrs. Chamberlin, Powell and Bon, gave a lecture on 'Residential Development in City Areas'. He described his firm's recent developments at Golden Lane, and his projected scheme for the Barbican, which he illustrated with slides.

Alderman W. H. Hennessey, Chairman of the Bristol Planning and Public Works Committee proposed a vote of thanks and spoke of the vast weight of responsibility which fell now upon the architectural profession. The lecture was well attended.

Devon and Cornwall Society of Architects. R.I.B.A. Architecture Bronze Medal. The R.I.B.A. will award a Bronze Medal for a building of outstanding merit completed in the province of the Devon and Cornwall Society of Architects during the four-year period ended 31 December 1957.

Members other than members of the Association who have done work in the area during the period should write for conditions to the Society's Hon. Secretary, Mr. C. H. P. Pearn [*A*], Down Park, Yelverton, South Devon. Closing date for nominations is 31 March 1958.

Essex, Cambridge and Hertfordshire Society of Architects. Visit to the Brussels Exhibition. The Society has arranged a four-day visit to the Brussels Exhibition (9–12 May 1958). Members and their friends will fly to Ostend where hotel accommodation has been booked and thence journey by coach on two successive days to Brussels. Over 80 people are participating. Approximate cost: return air fare, hotel and coaches, £15. There are a few vacancies left and anyone interested is invited to write to the Hon. Secretary, R. Owen Vine, Tudor Chambers, Station Road, Wood Green, London, N.22.

Manchester Society of Architects. Annual Dinner. The Society's annual dinner was held at the Masonic Temple, Manchester, on Wednesday 29 January. The President, Mr. R. M. McNaught, J.P., F.R.I.A.S. [*F*], was in the chair. Among the guests were the President R.I.B.A., Mr. Kenneth M. B. Cross, accompanied by the Secretary, Mr. C. D. Spragg, C.B.E., the Lord Mayor of Manchester, Alderman Leslie Lever, M.P., Dr. B. V. Bowden, A.M.I.E.E., Principal of the Manchester College of Science and Technology, and Professor Dennis R. Harper [*F*], Head of the Department of Building in the College, Mr. Norman H. Fowler [*F*], President of the West Yorkshire Society of Architects, and Mr. J. H. Holden, A.R.C.A., Principal of the Regional College of Art.

The toast of the R.I.B.A. was proposed by Mr. McNaught and responded to by Mr. Cross. The toast of The City of Manchester was proposed by Mr. Cecil Stewart [*F*], Senior Vice-President of the Society, to which the Lord Mayor replied. The toast of The Guests was proposed by Mr. S. G. B. Roberts [*A*], Deputy City Architect of Manchester, and was responded to by Dr. Bowden.

South Wales Institute of Architects. Annual Dinner and Dance. The Institute's annual dinner and dance was held at the Royal Hotel, Cardiff, on Thursday 16 January 1958. Mr. C. A. Hughes [*L*], President of the Institute, was in the chair and the R.I.B.A. was represented by Mr. Harold Conolly, C.B.E., Vice-President, and Mrs. Conolly, and the Secretary, Mr. C. D. Spragg, C.B.E.

The toast of the R.I.B.A., the South Wales Institute of Architects and the Welsh School of Architecture, was proposed by Mr. K. H. Hodges, Chairman of the Welsh Board of Health, and Mr. Conolly replied. The toast of The Guests was proposed by Mr. Hughes and was responded to by the Lord Mayor of Cardiff, Alderman J. H. Morgan, who was accompanied by the Lady Mayoress.

GENERAL NOTES

Architects' Christian Union. Another well-attended quarterly meeting was held at the R.I.B.A. on Thursday 16 January, when the speaker was J. N. D. Anderson, O.B.E., M.A., LL.D., Professor of Oriental Law at London University. Mr. E. A. S. Houfe [*F*] occupied the chair.

Illuminating Engineering Society. The I.E.S. Summer Meeting will be held this year at Eastbourne from 11–14 May. All the papers to be read are relevant to architecture, and the subjects include 'Lighting in Finland' by E. Paivarinne, and 'Lighting in Architecture' by G. Grenfell Baines [*A*] and A. L. Hogg.

Particulars of the meeting may be had from the Secretary, I.E.S., 32 Victoria Street, London, S.W.1.

West German Research Shcholarship. Mr. Wallace van Zyl [*A*], Lecturer in Architecture at Natal University, has been awarded a West German Government scholarship for one year's advanced research in architecture in Europe and during February he has been lecturing on South African architecture at Delft University, Rotterdam and The Hague.

International Federation for Housing and Town Planning. The International Federation for Housing and Town Planning are holding their 24th International Congress at Liège, Belgium, from 31 August to 6 September 1958. The theme of the Congress is to be 'Planning and Housing Problems in the Region.' The discussions will deal with purely rural regions as well as those dominated by metropolitan growth or industrial development.

Reports will be delivered by: Mr. James W. R. Adams, O.B.E., F.I.L.A., P.P.T.P.I., on 'The Characteristics and Objectives of Surveys and of Regional Plans'; Monsieur Roger Puget (France) on 'The Proposals embodied in Regional Plans'; Herr J. Umlauf (W. Germany) on 'The Implementation of Regional Plans'; Mr. Viggo Nørby (Denmark) on 'The Housing Problem in Regional Planning'; Mr. J. Vink (Netherlands) on 'Rural Problems in the Regional Plan'; Signor Giovanni Astengo (Italy) on 'Methods of Work'.

Monsieur Emile Parent (Belgium) will present an introductory report at the first general session, and the six subjects mentioned above will be dealt with by study groups on the remaining days of the Congress. At the final session the conclusions of the study groups will be presented and discussed.

An exhibition entitled 'Man in the Region, in the City and in the Home' will be held from June to September 1958 at Liège.

Simultaneous translation will be provided in English, French and German.

A visit is planned to the International Exhibition at Brussels, and also a tour of several regions in Belgium after the Congress.

Further details and application forms may be obtained from the Headquarters, International Federation for Housing and Town Planning, Laan Copes van Cattenburch 123, The Hague, Netherlands.

First World Assembly of Engineers and Architects, Friends of Israel. The assembly, which is being organised by the Association of Engineers and Architects in Israel in conjunction with the Technion (Israel Institute of Technology), will open in Haifa on 29 May and continue until 8 June 1958. The theme is 'The Part of Technology in the Development of the State', and the programme includes a number of tours and a reception by the President of the State.

Peltours Travel Agency have been appointed sole agents for travel arrangements, etc., and members who are interested can obtain full particulars from their London office, 29 Duke Street, London, W.1 (WELbeck 9943).

R.I.B.A. Golfing Society. The annual dinner of the R.I.B.A.G.S. was held on 31 January at the Milestone Hotel.

Brigadier A. G. Bonn proposed the health of the Society and Mr. R. G. Scott [*A*], Captain for 1958, gave in his reply a review of the Society's activities during 1957.

Lt.-Col. A. E. Henson [*F*] proposed the toast to the guests, and Mr. Norman C. Tremellen replied.

On 1 February 1958 the R.I.B.A.G.S. played their annual match against the Oxford Divots at St. Georges Hill Golf Club, Weybridge.

As in previous years the Society were playing against very strong opponents on level terms and the team is to be congratulated in losing only by six matches to four.

Notes from the Minutes of the Council

MEETING HELD ON 4 FEBRUARY 1958

Appointments

(*a*) *R.I.B.A. Representation on the Architects' Registration Council for* 1958–1959. (i) 29 *Representatives on the Architects' Registration Council.* Harold Anderson [*F*], D. H. Beaty-Pownall [*F*], J. B. Brandt [*F*], J. E. A. Brown-rigg [*A*], L. A. Chackett [*F*], Thomas S. Cordiner [*F*], Dr. F. F. C. Curtis [*A*], R. E. Enthoven [*F*], S. Vincent Goodman [*F*], R. D. Hammett [*F*], J. Kenneth Hicks [*F*], Leonard C. Howitt [*F*], R. J. Hurst [*F*], H. L. Kelly [*F*], Cecil Kennard [*F*], A. H. Ley [*F*], H. Martin Lidbetter [*F*], Howard V. Lobb [*F*], E. D. Lyons [*A*], S. W. Milburn [*F*], E. D. Mills [*F*], T. E. North [*F*], J. T. W. Peat [*F*], F. B. Pooley [*F*], F. L. Preston [*F*], W. A. Rutter [*F*], R. H. Uren [*F*], A. Neville Ward [*A*], David B. Waterhouse [*A*]. (ii) *Four Representatives on the Admission Committee.* L. A. Chackett [*F*], H. Martin Lidbetter [*F*], E. D. Lyons [*A*], J. T. W. Peat [*F*].

(*b*) *R.I.B.A. Delegates at Fifth Congress of the International Union of Architects: Moscow,* 20–28 *July* 1958. Professor Robert H. Matthew [*F*], Arthur G. Ling [*F*].

(*c*) *R.I.B.A. Representation on the National Joint Committee on Materials Handling.* Eric H. Firmin [*F*] in place of E. D. Jefferiss Mathews [*F*], resigned.

(*d*) *London Building Acts* (*Amendment*) *Act,* 1939*: R.I.B.A. Representation on Tribunal of Appeal.* Frank Scarlett [*F*] in place of Sydney Tatchell [*F*], resigned. Charles Woodward [*A*] re-appointed as deputy.

(*e*) *Board of Building Education: R.I.B.A. Representative:* D. H. Beaty-Pownall [*F*] in place of R. E. Enthoven [*F*], whose term of office has expired.

(*f*) *B.S.I. Ironmongery Industry Standards Committee: R.I.B.A. Representative.* H. J. G. Stantiall [*A*].

The Honorary Associateship. Sir John Cockcroft, O.M., K.C.B., C.B.E., F.R.S. and Mr. William Ogden Hart, C.M.G., Clerk of the London County Council, have accepted the Council's nomination for election as Honorary Associates.

Membership. The following members were elected: as Associates 88.

Students. 148 Probationers were elected as Students.

Applications for Election. Applications for election were approved as follows: *Election* 15 *April* 1958: as Honorary Associates 2; as Fellow 1; as Associates 55. *Election* 17 *June* 1958 (*Overseas Candidates*): as Associates 10.

Applications for Reinstatement. The application of Frank Ralph Priest for reinstatement as a Licentiate was approved.

Resignations. The following resignations were accepted with regret: David Harris Davies [*F*], Horace Charles Fread [*F*], Harold Francis Hurcombe [*F*], William Nixon Scaife [*F*], William Walter Scott-Moncrieff [*F*], Charles Cecil Shaw [*F*], Frederick Robert Hiorns [*Retd. F*], Donald Campbell Rupert Bailey [*A*], Mrs. Dorothy Booth [*A*], Donald Jack Cannon [*A*], Mrs. Phyllis Mary Degens [*A*], Arend Josias de Kock [*A*], James Bowman Dey [*A*], Walter Duncan Middleton Dodd [*A*], Mrs. Anne Clemence Eadie [*A*], Nutcombe Guy St. George Everard [*A*], Norton Alexander Fellowes [*A*], Miss Pamela Muriel Fitt [*A*], Joseph Gerald Fogel [*A*], Mrs. Sara Elizabeth Furse [*A*], Allen Willie Gerard [*A*], Richard Anthony Kayll [*A*], Mrs. Jane Alethea Lenon [*A*], Alexander Ernest Christian Lipp [*A*], William Lucas [*A*], Mrs. Kathleen McBretney [*A*], Mrs. Margaret Hilary McColgan [*A*], Miss Moira Train Mackay [*A*], Darell Stuart Maynard [*A*], Charles William Milburn [*A*], Mrs. Mary Patricia Morgan [*A*], Geoffrey Morland [*A*], Montague William Padget [*A*], Alfred Llewellyn Priest [*A*], Bhaskar Narayan Rahalkar [*A*], Arthur Gordon Ray [*A*], Mrs. Margaret Graham Ryan [*A*], Michael Walter Morwen Smith [*A*], Ian B. Sprague [*A*], Mrs. Margaret Tomalin [*A*], Mrs. Mary Patricia Vallis [*A*], Mrs. Beryl Margaret Sarah Watkins [*A*], Anthony Hilton Way [*A*], Michael Gibson Weller [*A*], Mrs. Margaret Joan Woods [*A*], Mrs. Mary Wragg [*A*], Edward Alexander Taylor [*Retd. A*], Frank Abbey [*L*], James Oliver Blyth [*L*], Gerald Cowburn [*L*], Wilfrid Thor Deacon [*L*], Ernest Harry Frowde [*L*], Harold Thomas William Gough [*L*], Philip Haworth [*L*], George Eastwood Hinchliffe [*L*], Arthur Wellesley Holt [*L*], James Thomas Jenkins [*L*], Frank Henry Langley [*L*], Percy Herbert Marshall [*L*], Wilfred Victor Meek [*L*], Lockhart Fraser Miller [*L*], Alfred Ethelbert Moore [*L*], Harold Leggett Mullett [*L*], Harold Stanley Peppiatt [*L*], Frederick Charles Ravenhill [*L*], Bernal John Ryan [*L*], Edward Cecil Selfe [*L*], Cecil John Speed [*L*], Osborne Moorhouse Thorp [*L*], Philip Henry Warwick [*L*], James Alexander Wyllie [*L*], Guy Hemingway Yeoman [*L*], Douglas William Cooper [*Retd. L*], Charles Andrew Robinson Swan [*Retd. L.*]

Applications for Transfer to Retired Members' Class under Bye-law 15. The following applications were approved: as Retired Fellows: Joseph Addison, Frank Wilmin Brewer, Frederick George Drewitt, Lawford Raymond Gower, Leonard Gordon Hannaford, Frederick Milton Harvey, Leslie Robert Hiscock, Arthur Victor Lobban, Harold Clayforth Mason, Harold Haynes Matthews, John Nelson Meredith, Henry Oliver, Kenneth Palmer, Albert Harry Powell, Oliver Frederick Savege, William Morgan Traylor, Gerald Berkeley Wills. As Retired Associates: Robert Angles, Clarence Howard Bailey, Francis James Barton, John Archibald Bessant, Alan Crombie, Mrs. Ruth Meryon Easton, John Stewart Hodges, Thomas Francis O. Rippingham, Alwyne Tutton, Robert George Vergette, Percy Whitehead. As Retired Licentiates: Arthur Challinor, George Maurice Cox, Clifford Harold Instance, Edwin Lambert Pratt, James Sadler, Michael Soimenow, William Jackson Taylor, Allan William Vincent, Harold Whiteman, Frederick Charles Wylde.

Obituary. The Secretary reported with regret the death of the following members: William Henry Randoll Blacking [*F*], Neil Burke Moir [*F*], John Donald Mills [*Retd. F*], John Petter [*Retd. F*], Edward Ralph Douglas Selway [*Retd. F*], Basil Hope Sutton [*Retd. F*], Percy James Westwood [*Retd. F*], Frank Woodward [*A*], Paul William Mulready [*Retd. A*], Frederick Evelyn Openshaw [*Retd. A*], Norman Boothroyd [*L*], Percy Norman Brown [*L*], William Sydie Dakers [*L*], Matthew Cromarty Robson [*L*], James Christopher Rogerson [*L*], Edward Ernest Hall [*Retd. L.*], Henry Cecil Newman [*Retd. L*].

By resolution of the Council the sympathy and condolences of the Royal Institute have been conveyed to their relatives.

Membership Lists

ELECTION 4 FEBRUARY 1958

The following candidates for membership were elected on 4 February 1958.

AS ASSOCIATES (88)

Adams: (Mrs.) Pauline, Dip.Arch.(The Polytechnic).
Adams: Peter Dunstan Renwick, Dip.Arch.(The Polytechnic).
Ainsworth: John Dredge, B.A.(Arch.)(Lond.).
Allen: Joseph Richard, Dipl.Arch.(Oxford), Abingdon.
Ashcroft: Trevor Sanderson, Dip.Arch. (Dunelm), St. Annes-on-Sea.
Balfour: William Alexander, Dip.Arch.(The Polytechnic).
Bedford-Smith: Adrian, Dip.Arch.(Birm.), Birmingham.
Birnbaum: David Joseph, B.A.(Arch.)(Lond.).
Boby: Robin John Pearce, Dipl.Arch.(Oxford), Oxford.
Booton: Harold William, Dip.Arch.(Dunelm), Stockton-on-Tees.
Byron: John Leonard Charles, B.Arch.(L'pool), Liverpool.
Chew: Chin Aik Victor, B.A.(Cantab.) Dip. Arch.(The Polytechnic), Singapore, Malaya.
Christie: George, D.A.(Glas.), Glasgow.
Cove: William, Dip.Arch.(The Polytechnic), Croydon.
Cunningham: James, D.A., Dip.T.P.(Glas.), Wishaw.
Dash: Michael William, Dip.Arch.(The Polytechnic).
Davie: George Kenneth, D.A., Dip.T.P.(Glas.), Cumbernauld.
Davis: Joseph Malcolm, Dipl.Arch.(U.C.L.), Windsor.
Dawes: Ian Johnstone, D.A.(Glas.), Kilmarnock.
De Kretser: (Mrs.) Sheila Ann, Dip.Arch.(The Polytechnic).
De Silva: Sarangu Hewage Nandisena, Dipl. Arch.(U.C.L.).
Dowling: Robert Henry, B.Arch.(L'pool), Dublin.
Doxat-Pratt: Denys Trevor, Dip.Arch.(The Polytechnic), Worcester Park.
Dutcher: Norman Gerald, B.Arch.(Manitoba), Ste. Genevieve, Quebec, Canada.
Elliott: Michael Richard, Brighton.
Ellison: Donald John, B.Arch.(Auck. N.Z.), Tauranga, North Island, New Zealand.
Evans: Michael Robert, B.A.(Arch.)(Lond.).
Farley: William Raymond, B.Arch.(Sydney), Yenda, N.S.W., Australia.
Ferguson: Ian Robert, Dipl.Arch.(Oxford), Bournemouth.
Gobby: Ronald Edwin Ernest, New Malden.
Goodall: Rodney David, Dipl.Arch.(Oxford), Reading.
Gotlieb: Marcus Theodore, B.Arch.(Auck., N.Z.), Wellington, New Zealand.
Grierson: Richard Cunningham, Dip.Arch.(The Polytechnic).
Hall: Brian Wynyard, Dipl.Arch.(Oxford), Southampton.
Hall: Frank Scrivener, B.Arch.(L'pool), Hamilton, Ontario, Canada.
Heaton: Derek, Dip.Arch.(Cardiff), Cardiff.
Hepburn: John, D.A.(Glas.), Glasgow.
Heymann: Siegfried, Dipl.Arch.(Oxford), Cheltenham.
Horne: Sydney Charles, Dip.Arch.(The Polytechnic).
Hunter: John Michael, B.A.(Cantab.), A.A. Dipl.
Inglis: Thomas Thexton Leith, Dip.Arch.(The Polytechnic), Purley.
Jeevanayagam: Alagasundaram Kingsbury, Dip. Arch.(Melbourne), Mt. Lavania, Ceylon.

Jelinek: George Walter, Dip.Arch.(The Polytechnic), New Barnet.
Jones: Derek John, Dipl.Arch.(Oxford), Great Missenden.
Jones: Raymond John Osmond, Dip.Arch. (Cardiff), Cardiff.
King: Stuart Reid, B.Arch.(L'pool), Wallasey.
Kirby: John, Dipl.Arch.(U.C.L.).
Kofoed: Albert Graham, B.Arch.(Auck.N.Z.), Wellington, New Zealand.
La Gro: Jens Wybrand, Auckland, New Zealand.
Lawrence: Robert Nicol, D.A.(Glas.), Glasgow.
Lee: Sian Teck, B.Arch.(Sydney), Singapore, Malaya.
Lim: Kooi Chang, B.Arch.(Sydney), Penang, Malaya.
Lim: (Mrs.) Theresa Mun Sim, B.Arch. (Sydney), Singapore, Malaya.
Mack: Norman Caldwell, D.A.(Glas.), Paisley.
Malcolm: Ronald McDonald, D.A.(Edin.), Edinburgh.
Mansell: John, Dip.Arch.(Birm.), Kidderminster.
Marshall: James Robertson, D.A.(Edin.), Edinburgh.
Master: Rohinton Nariman, Leeds.
Murray: George Percival Ross, D.A.(Edin.), Dunedin, New Zealand.
Owens: Ronald Embleton, B.Arch.(L'pool), Wirral.
Parkes: David Henry, Dip.Arch.(Birm.), Frome.
Pennington: Richard Peter Gibbs, Dip.Arch. (Manchester), Mimico, Ontario, Canada.
Pratt: Robin Charles, Dipl.Arch.(U.C.L.).
Randall: Peter, Dip.Arch.(Birm.), Salisbury.
Rennie: Ian Pierce, B.A.(Cantab.), Dip.Arch. (The Polytechnic), Sonning.
Robinson: John Cecil, Jesselton, North Borneo.
Samson: James Workman, M.C., Salisbury, Southern Rhodesia.
Shaw: Percy Alfred.
Sheldon: Stephen, Toronto, Ontario, Canada.
Si Hoe: Kok Sing, B.Arch.(Auck.N.Z.), Singapore, Malaya.
Simmons: Eric Bernard, Wellington, New Zealand.
Skelcher: Robin Thomas Peter, Dip.Arch. (Birm.), Solihull.
Skinner: David Neave, B.Arch.(L'pool), Philadelphia, Pennsylvania, U.S.A.
Smith: Robert Stewart, D.A.(Dundee), Dundee.
Spalding: Philip Sydney, Dip.Arch. (The Polytechnic).
Stander: Konstantyn, B.A.(Arch.)(C.T.), Cape Town, S. Africa.
Stegmann: Andrew Murray, B.Arch.(Rand), Salisbury, Southern Rhodesia.
Stonebridge: Anthony Colin, Dipl.Arch.(Oxford), Witney.
Taylor: John Brander, Dip.Arch.(Abdn.), Elgin.
Teh: Cheang Wan, B.Arch.(Sydney), Penang, Malaya.
Thompson: Brian Pearce, Dipl.Arch.(Oxford), Morden.
Thurai Rajah: Velupillai Suppiah, A.A.Dipl., Colombo, Ceylon.
Tucker: John Frank, Dip.Arch.(Cardiff), Swansea.
Tyler: (Miss) Jennifer Rosemary, A.A.Dipl.
Walker: (Mrs.) Audrey (née Lyon), B.Arch. (L'pool), Hinckley.
Whitson: (Miss) Phyllis Mary, D.A.(Glas.), Hertford.
Wicks: David Forster, B.Arch.(L'pool), Bradford on Avon.
Wong: Wai Ying, B.Arch.(Sydney), Singapore, Malaya.

ELECTION 15 APRIL 1958

An election of candidates for membership will take place on 15 April 1958. The names and addresses of the candidates, with the names of their proposers, are herewith published for the information of members. Notice of any objection or any other communication respecting them must be sent to the Secretary, R.I.B.A., not later than Monday 17 March 1958.

The names following the applicant's address are those of his proposers.

AS HON. ASSOCIATES (2)

Cockcroft: Sir John, O.M., K.C.B., C.B.E., F.R.S., 1 South Drive, Harwell, Didcot, Berks. Proposed by the Council.

Hart: William Ogden, C.M.G., The Lockers, Hemel Hempstead, Herts. Proposed by the Council.

AS FELLOW (1)

The following Licentiate has passed the qualifying examination:—

Dromgoole: Eric Colin Wulstan Buchanan, British Transport Commission, Docks and Inland Waterways, Southampton Docks; Woodend, Pine Drive, Thornhill, Southampton. Colonel R. F. Gutteridge, Ernest Bird, J. B. Brandt.

AS ASSOCIATES (55)

The name of a school, or schools, after a candidate's name indicates the passing of a recognised course.

Borg: Richard Philip, Dip.Arch.(Sheffield) (Univ. of Sheffield, Dept. of Arch.), 21 Harcourt Road, Sheffield, 10. Prof. Stephen Welsh, Prof. John Needham, J. L. Womersley.

Carrick: Peter Rushbrooke Oakes, Dip.Arch. (Birm.) (Birmingham Sch. of Arch.), 8 Upper Holland Road, Sutton Coldfield, Warwickshire. A. Douglas Jones, G. A. G. Miller, Reginald Edmonds.

Chakravarti: Devaprosad, B.Arch.(L'pool) (Liverpool Sch. of Arch., Univ. of Liverpool), 32 Huskisson Street, Liverpool, 8. Prof. R. Gardner-Medwin, R. R. Young, B. A. Miller.

Chamberlain: Roy (Final), 37 Brambling Way, Oadby, Leics. J. H. L. Owen, G. A. Cope, W. J. Prince.

Chipchase: Ronald, Dip.Arch.(Dunelm) (King's Coll. (Univ. of Durham), Newcastle upon Tyne, Sch. of Arch.), 96 Brantwood Avenue, Whitley Bay, Northumberland. Prof. W. B. Edwards, F. Fielden, Bruce Allsopp.

Cloughley: John Anthony, Dip.Arch.(Manchester) (Victoria Univ. Manchester: Sch. of Arch.), Flat 12, Beverley Court, 34 Onslow Gardens, S.W.7. Prof. R. A. Cordingley, J. M. Easton, Sir Howard Robertson.

Cope: Garry Edward, Dip.Arch.(Birm.) (Birmingham Sch. of Arch.), 12 Barker Road, Sutton Coldfield, Warwickshire. T. S. Wood, S. T. Walker, F. J. Osborne.

Corke: Hilton Edward James, M.C.D., B.Arch. (L'pool) (Liverpool Sch. of Arch.: Univ. of Liverpool), 7 Maple Road, Bournville, Birmingham, 30. Prof. R. Gardner-Medwin, Prof. H. M. Wright, Sir Ernest Shennan.

Cowburn: William Goring, Dip.Arch. (Manchester) (Victoria Univ. Manchester: Sch. of Arch.) Flat 3, 38 Lytton Grove, Putney, S.W.15. Prof. R. A. Cordingley, Dr. W. A. Singleton, E. S. Benson.

Crabtree: Colin (Leeds Sch. of Arch.), 36 New Bank Street, Morley, Leeds. F. Chippindale, D. A. Fowler, R. S. Shapley.

Cuttle: Timothy, Dipl.Arch.(U.C.L.) (Bartlett Sch. of Arch.: Univ. of London), Ash Lodge, Pump Hill, Loughton, Essex. R. O. Foster, F. J. Lander, Prof. H. O. Corfiato.

Drury: Roy William (Final), 'Oakfields', Stapleford Abbotts, Essex. Applying for nomination by the Council under Bye-law 3(*d*).

Evans: (Miss) Nora Elizabeth Marjorie, Dip.Arch.(Cardiff) (Welsh Sch. of Arch.: The Tech. Coll., Cardiff), Hollycroft, Mardy, Abergavenny, Mon. Lewis John, H. O. Williams, John Hughes.

Ferguson: (Miss) Elise Victoria Margaret, A.A.Dipl. (Arch.Assoc.(London): Sch. of Arch.), 4 Vicarage Gardens, Kensington, W.8. M. Pattrick, R. F. Jordan, Arthur Korn.

Fleming: George Glanville, Dip.Arch.(Manchester) (Victoria Univ. Manchester: Sch. of Arch.), 78 School Lane, Wallasey, Cheshire. Prof. R. A. Cordingley, Dr. W. A. Singleton, E. S. Benson.

Franklin: Norman Leonard, Dipl.Arch.(U.C.L.) (Bartlett Sch. of Arch.: Univ. of London), 7 Nursery Avenue, Shirley, Croydon. Prof. H. O. Corfiato, L. H. McDermott, R. C. White-Cooper.

Garnett: Patrick Barry, B.A.(Manchester) (Victoria Univ. Manchester: Sch. of Arch.), The Rowans, Rhuddlan Road, Rhyl, North Wales. Prof. R. A. Cordingley, Sir Howard Robertson, J. M. Easton.

Goodship: Peter, Dip.Arch.(Cardiff) (Welsh Sch. of Arch.: The Tech. Coll., Cardiff), 3 Station Road, Nantymoel, Nr. Bridgend, Glam. Lewis John, Dr. T. A. Lloyd, C. F. Jones.

Gosling: David, B.A.(Arch.) (Manchester) (Victoria Univ., Manchester: Sch. of Arch.), 9 Gowan Road, Whalley Range, Manchester, 16. Prof. R. A. Cordingley, Dr. W. A. Singleton, Dr. Thomas Howarth.

Graham: John Michael, Dipl.Arch.(Leeds) (Leeds Sch. of Arch.), 31 Royal Crescent, W.11. F. Chippindale, E. M. Fry, Miss J. B. Drew.

Gregg: Derick, Dipl.Arch.(Leeds) (Leeds Sch. of Arch.), Rossleigh, Weston Lane, Otley, Yorks. N. H. Fowler, F. Chippindale, Kenneth Turner.

Hanley: Colin Edgar, Dip.Arch.(Birm.) (Birmingham Sch. of Arch.), Kathston, 28 Birches Road, Codsall, Staffs. A. Douglas Jones, Herbert Jackson, Reginald Edmonds.

Horobin: Norman, Dip.Arch.(Leics.) (Leicester Coll. of Art & Tech. Sch. of Arch.), Whitchester, Bentinck Road, Newcastle upon Tyne, 4. Prof. J. S. Allen, T. W. Haird, Arthur Ling.

Houghton: Anthony Max, Dip.Arch.(Sheffield) (Univ. of Sheffield: Dept. of Arch.), 20 Slayleigh Avenue, Fulwood, Sheffield, 10. Prof. Stephen Welsh, Prof. John Needham, J. L. Womersley.

Hurst: Raymond, B.A.(Manchester) (Victoria Univ., Manchester: Sch. of Arch.), 42 Grantbridge Street, Islington, N.1. Prof. R. A. Cordingley, Dr. W. A. Singleton, E. S. Benson.

Jones: Colin Emlyn, Dip.Arch.(Cardiff) (Welsh Sch. of Arch.: The Tech. Coll., Cardiff), 89, Pritchard Street, Tonyrefail, Glam. Lewis John, Dr. T. A. Lloyd, C. F. Jones.

Kenward: Malcolm, Dip.Arch.(Sheffield) (Univ. of Sheffield: Dept. of Arch.), 5 Birchwood Caravan Park, Ash, Nr. Aldershot, Hants. Prof. Stephen Welsh, Prof. John Needham, H. B. Leighton.

Leslie: Richard Ross, D.A.(Dundee) (Dundee Coll. of Art: Sch. of Arch.), 133 Clepington Road, Dundee, Angus. Prof. John Needham, A. G. Henderson, A. F. S. Wright.

Lovell: Ian William, B.A.(Cantab.), D.A. (Edin.) (Edinburgh Coll. of Art: Sch. of Arch.),

Kinmount, Sausmarez Road, St. Martins, Guernsey, C.I. Esme Gordon, W. G. Dey, Donald Jack.

Lyle: David Leslie, B.Arch.(L'pool) (Liverpool Sch. of Arch.: Univ. of Liverpool), The Beeches, Park Road N., Newton-le-Willows, Lancs. Prof. R. Gardner-Medwin, R. M. Robertson, R. A. Threadgold.

Mason: Kenneth Derek, Dip.Arch.(Sheffield) (Univ. of Sheffield: Dept. of Arch.), 383c Glossop Road, Sheffield, 10. Prof. Stephen Welsh, H. A. Johnson, A. H. Wilson.

Massey: Edward James, Dip.Arch.(Manchester) (Victoria Univ., Manchester: Sch. of Arch.), Rossett, 266 London Road, Appleton, Nr. Warrington. Prof. R. A. Cordingley, E. D. J. Mathews, A. G. Nisbet.

Masterman: Maurice Malcolm (Leeds Sch. of Arch.), 56 Waincliffe Mount, Leeds, 11. N. H. Fowler, G. Davy, Noel Pyman.

Mayo: Eric Charles, B.A.(Arch.)(Sheffield) (Univ. of Sheffield: Dept. of Arch.), 85 Bocking Lane, Sheffield, 8. Prof. Stephen Welsh, W. L. Clunie, H. B. Leighton.

Montague: Derek Joseph, (Final), c/o 83 Burton Road, Derby. Applying for nomination by the Council under Bye-law 3(*d*).

O'Leary: Peter Maurice, Dipl.Arch.(Oxford) (Sch. of Tech. Art & Commerce, Oxford: Sch. of Arch.), 4 Lawn Crescent, Kew, Surrey. R. W. Cave, T. W. Knight, Carl Fisher.

Palmer: Ray, Dip.Arch.(The Polytechnic) (The Poly., Regent Street, London: Sch. of Arch.), 11 Kinross Close, Kenton, Harrow, Middx. J. S. Walkden, H. W. Rosenthal, Peter Goodridge.

Rees: Idris John, B.Arch.(Wales) (Welsh Sch. of Arch.: The Tech. Coll., Cardiff), Dorset House, Pontyates, Llanelly, Carms. Lewis John, Dr. T. A. Lloyd, C. F. Jones.

Richards: Bill, (Final), 41 Dunraven Road, West Kirby, Cheshire. J. A. Haddy, F. J. M. Ormrod, Dr. Ronald Bradbury.

Roberts: Walford, Dip.Arch.(Manchester) (Victoria Univ., Manchester: Sch. of Arch.), 22 Lynton Avenue, Harborough Road North, Northampton. Prof. R. A. Cordingley, Dr. W. A. Singleton, A. N. Harris.

Robinson: Peter, D.A.(Dundee) (Dundee Coll. of Art: Sch. of Arch.), Beverley Court, 34 Onslow Gardens, S.W.7. Prof. John Needham, R. M. Pigott, A. F. S. Wright.

Robson: William, Dip.Arch.(Dunelm) (King's Coll. (Univ. of Durham) Newcastle upon Tyne: Sch. of Arch.), 3 Felton Avenue, Whitley Bay, Northumberland. Prof. W. B. Edwards, Bruce Allsopp, F. Fielden.

Smorczewski: Ralph, A.A.Dipl. (Arch. Assoc. (London): Sch. of Arch.), 59 Carlisle Mansions, Carlisle Place, S.W.1. C. G. Stillman, R. F. Jordan, Arthur Korn.

Spencer: David Trevor (Leeds Sch. of Arch.), 9 Ashby Terrace, Leeds, 13. F. Chippindale, Kenneth Turner, D. A. Fowler.

Stewart: Robert Munro, D.A.(Glas.) (Glasgow Sch. of Arch.), 5 Kingshill Drive, Glasgow, S.4. Prof. W. J. Smith, A. A. Foote, A. D. Cordiner.

Sykes: (Mrs.) Jill Judith, Dipl.Arch.(Leeds) (Leeds Sch. of Arch.), 15 Cowper Mount, Leeds, 9. F. Chippindale, Kenneth Turner, D. A. Fowler.

Taylor: Geoffrey, Dipl.Arch.(Leeds) (Leeds Sch. of Arch.), 75 Wood Lane, Ashenhurst, Huddersfield. F. Chippindale, Kenneth Turner, D. A. Fowler.

Thompson: James Michael Hoey, Dip.Arch. (Leics.) (Leicester Coll. of Art and Tech. Sch. of Arch.), The Garden House, Oldfield Lane, Bath. Robert Potter, J. E. K. Harrison, A. C. Cole.

Thompson: Joseph Eric, Dip.Arch.(Leics.) (Leicester Coll. of Art and Tech. Sch. of Arch.), 2 Carlton Drive, S.W.15. S. Penn Smith, A. E. Eberlin, Hubert Bennett.

Turner: (Miss) Pamela Ann, Dipl.Arch. (Northern Polytechnic) (Northern Poly. (London): Dept. of Arch.), 160 Gloucester Place, N.W.1. T. E. Scott, C. G. Bath, The Hon. Lionel Brett.

Ward: Kenneth Roy, Dip.Arch.(Sheffield) (Univ. of Sheffield: Dept. of Arch), 11 Elwood Road, Bradway, Sheffield. Prof. Stephen Welsh, H. B. Leighton, L. T. Boyman.

Watson: James, D.A.(Edin.) (Edinburgh Coll. of Art: Sch. of Arch.), 51 Newbiggin, Richmond, Yorks. J. Holt, E. Riss, R. F. Hutchison.

Weiss: John Saul, B.A.(Arch.)(Lond.) (Bartlett Sch. of Arch.: Univ. of London), 64 Fitzjohn's Avenue, N.W.3. Prof. H. O. Corfiato, A. M. Foyle, R. C. White-Cooper.

Williams: Nevil David, (Final), 30 Croyde Avenue, Corby, Northamptonshire. Dr. D. R. Harper, T. H. B. Burrough and applying for nomination by the Council under Bye-law 3(*d*).

Woodhead: Fred, Dip.Arch.(Sheffield) (Univ. of Sheffield: Dept. of Arch.), 24 Longley Crescent, Sheffield, 5. Prof. Stephen Welsh, Prof. John Needham, J. L. Womersley.

ELECTION 17 JUNE 1958

An election of candidates for membership will take place on 17 June 1958. The names and addresses of the overseas candidates, with the names of their proposers, are herewith published for the information of members. Notice of any objection or any other communication respecting them must be sent to the Secretary, R.I.B.A., not later than Friday 30 May 1958.

The names following the applicant's address are those of his proposers.

AS ASSOCIATES (10)

The name of a school, or schools, after a candidate's name indicates the passing of a recognised course.

Barboure: Donald Bruce, (Passed a qualifying Exam. approved by the I.S.A.A.), c/o Messrs. Geoffrey Le Sueur & Partners, 21 South British Building, Field Street, Durban, S. Africa. F. W. Powers, G. H. Crickmay, A. M. Allen.

Benton: Gordon Grant, Dip.Arch.(Abdn.) (Aberdeen Sch. of Arch.: Robert Gordon's Tech. Coll.), c/o Messrs. Hughes & Polkinghorne, P.O. Box 2693, Nairobi, Kenya, East Africa. Mrs. E. D. Hughes, John Maclennan, E. F. Davies.

Cherlin: Lennox, (Passed a qualifying Exam. approved by the R.A.I.A.), c/o Public Works Department, High Street, Singapore, Malaya. W. I. Watson, K. S. Ng, H. L. Bloomfield.

Dyer: Roger Grahame, Dip.Arch.(Birm.) (Birmingham Sch. of Arch.), c/o Messrs. Murton, Barnes and McIntyre, 605 James Street North, Hamilton, Ontario, Canada. A. Douglas Jones, Herbert Jackson, G. A. G. Miller.

Ezer: Colyn Maskew, B.Arch.(C.T.) (Passed a qualifying Exam. approved by the I.S.A.A.), 1 Bickley Flats, Main Road, Kenilworth, Cape Town, S. Africa. Applying for nomination by the Council under Bye-law 3(*d*).

Miszewski: Jan Maciej (Passed a qualifying Exam. approved by the I.S.A.A.), Cockpit, La Gratitude, Pinelands, Cape Province, S. Africa. Prof. L. W. T. White, F. L. Sturrock, O. Pryce Lewis.

Mitchell: David Charles Hoffe, (Special Final), c/o Minister for Works, P.O. Box 30043, Nairobi, Kenya, East Africa. G. A. Henry, W. Alp, C. J. Crowe.

Mollross: Raymond Leslie, (Passed a qualifying Exam. approved by the R.A.I.A.), 9 Salvator Road, West Hobart, Tasmania, Australia. B. L. Dechaineux, A. L. Crisp, C. E. Philp.

Sohanpal: Gian Singh, (Final), P.O. Box 1047, Nairobi, Kenya, East Africa. L. G. Jackson, E. D. Hill, R. Q. Scammell.

Yelland: John Ross, B.Arch.(Rand) (Passed a qualifying Exam. approved by the I.S.A.A.), c/o Messrs. Ross MacKenzie, Van Heerden & Hartford, 17 New Africa House, Union Avenue, Salisbury, Southern Rhodesia. Applying for nomination by the Council under Bye-law 3(*d*).

Obituaries

Charles William Allen [*Retd. A.*] died on 22 October 1957, aged 69.

Mr. Allen, who studied at the Nottingham School of Art, worked in the offices of several Nottingham architects before joining the City Engineer's Department in Nottingham. He retired four years ago.

Ernest Barber [*L*] died on 30 October 1957, aged 69.

Mr. Barber served his articles with Mr. George Handley Johnson of Rotherham. During the First World War he served in Mesopotamia, where he was mentioned in dispatches, and in Persia, and was awarded the Meritorious Service Medal. After the war he left his native Yorkshire and went into partnership with Mr. Alfred Foster in Broadstairs.

As architect to the old Ramsgate Education Committee he designed, among other buildings in Ramsgate, the Dame Janet Elementary school, the Ellington Infants' and Hollicondane schools. From 1940–46 he was senior assessor to the East Kent area of the War Damage Commission. In 1946 he moved to Ramsgate, where he went into partnership with Mr. S. Fill and Mr. D. Fuller, who are now continuing the practice.

Mr. Barber was closely associated for many years with the Building Society movement and at the time of his death was Chairman of the Hastings and Thanet Building Society.

Richard Carter [*F*] died on 30 September 1957, at the early age of 46.

After studying at the Architectural Association, Mr. Carter became chief assistant to Mr. Geddes Hyslop [*F*] and afterwards architectural assistant in the Ministry of Works. In 1947 he commenced private practice in Petersfield, and in 1951 entered into partnership with Mr. Euston Salaman [*A*], who is continuing the practice.

His principal work had included domestic architecture, the conversion of a war-time camp to a county primary school, extensions to Messrs. Glasso Paints Ltd., Perivale, Middx., and two new public-houses—the 'Curlew' and the 'Dolphin'—for Messrs. George Gale and Co., at Havant.

Mr. Carter was the Chairman of the Eastern Chapter of the Hampshire and Isle of Wight Architectural Association and represented that Chapter on the Allied Societies' Conference.

His interests were varied and included the art direction and design of stage sets for the Steep Shakespeare Players' productions at Ashford Chace, and the Governorship of the Southern College of Art, Portsmouth.

Geoffrey George Clark, O.B.E., F.I.L.A., M.T.P.I. [*L*], Director of Planning to the Devon County Council, died on 26 October 1957, aged 64.

Born in Co. Durham of a family well known in the shipbuilding world, Mr. Clark was educated at Rugby School and at the Architectural Association, where he later became a lecturer.

In the First World War he served in the Royal Artillery, attaining the rank of major, and was wounded in the Battle of the Somme. After the war he resumed architectural work and then took up farming for several years, during which time he developed his great liking for the countryside. He subsequently became a planning consultant with Harding Thompson [*F*] and John Dower [*A*] and was joint author with Harding Thompson of several studies for the Council for the Preservation of Rural England. He was the planning consultant for a number of big estates in Dorset and his work included cottage restorations and conversions. During the Second World War he became Rural Land Utilisation Officer in the South-West for the Ministry of Agriculture, and was later appointed planning consultant to Dorset County Council before taking his post in Devon.

His was the co-ordinating brain behind the Devon County Development Plan and he also played a key part in the developments which led to the Ministry of Housing and Local Government's decision that a B.B.C. television station should be established on North Hessary Tor. He was a former Vice-Chairman of the Ministry of Agriculture's Advisory Committee on Rural Land Use and was awarded the O.B.E. for his services to planning in 1951.

Mr. Clark was a frequent contributor to COUNTRY LIFE and THE FIELD. Dr. L. Dudley Stamp, C.B.E., has written in tribute:

'Deeply appreciative himself of the good things of life, whether the almost lost art of gracious living or the subtler beauties of town and country, he sought so to develop physical planning as to preserve the best from the past in a way not incompatible with changing standards and tastes.'

The Very Rev. David Herbert Somerset Cranage, Litt.D., F.S.A. [*Hon. A*], Dean Emeritus of Norwich, died on 22 October 1957, aged 91.

Dr. Cranage, who was Dean of Norwich from 1928 to 1945, was an authority on architecture and antiquities and was granted his D.Litt. after he had published *An Architectural Account of the Churches of Shropshire*. He had been Vice-President of the Society of Antiquaries, Chairman of the Central Council for the Care of Churches from 1938 to 1953, and of the Cathedrals Advisory Committee from 1946 to 1955. He had also served as Chairman of the Faculty Board of Fine Arts at Cambridge.

During his years at Norwich he had been responsible for the restoration and repair of the Cathedral. He was also author of *Cathedrals and How they were Built*.

Joseph Fielden Dixon [*A*] died on 12 July 1957.

Mr. Dixon received his training with Messrs. Fairbrother, Hall and Hedges [*LL*] of Blackpool and started practice in 1947. His chief works were offices at 28–30 Charlotte Street, W.1, and premises at 29–30 Windmill Street, W.1, for Messrs. Giordano, Ltd.

Mr. James A. H. Stiff [*A*] is continuing the practice.

Bertram William Leonard Gallannaugh [*F*], principal of Messrs. Ellis, Clarke and Gallannaugh, died on 26 August 1957, aged 57.

Mr. Gallannaugh was educated privately at first and later studied at the Central School of Art and at the Royal Academy. He subsequently became an assistant in the firm of Herbert O. Ellis and Clarke [*FF*], which had long specialised in the design of newspaper offices. Mr. Gallannaugh became a partner in the firm and at the time of his death was the sole remaining partner.

Among the many buildings for which he was responsible were the DAILY EXPRESS building in Fleet Street, the STAR building in Bouverie Street, Kemsley House in Gray's Inn Road, London, the Manchester offices of the NEWS OF THE WORLD, premises for the WESTERN MORNING NEWS at Plymouth, for Southern Newspapers at Southampton, and for the CEYLON TIMES at Colombo. As architect to THE TIMES he had designed the new buildings completed shortly before the Second World War and had prepared plans for the rebuilding of the main premises.

In a different sphere, he transformed Grosvenor Square into a memorial garden as a setting for the Roosevelt Memorial.

At the time of his death he was working on plans for new offices for THE DAILY GLEANER at Kingston, Jamaica.

The practice will continue under the same style and at the same address of 37 Soho Square, London, W.1, under the direction of Mr. T. B. Sanders [*A*] and Miss M. Rumsey [*A*].

William Haywood, M.T.P.I. [*F*], Senior Partner of Buckland and Haywood, died on 1 November 1957, aged 80.

Mr. R. Stanley-Morgan [*A*] writes:

'Mr. Haywood was in private practice in Birmingham for many years in partnership with the late H. T. Buckland [*F*]. He was a remarkable example of an architect who, without inherited social advantages, rose to a position of influence and respect in his profession.

'His early talents were demonstrated by the prizes he won, among them the Pugin Studentship and a number of local awards. In 1918, at the height of his powers, Mr. Haywood published his proposals for "The redevelopment of Birmingham" in which he displayed his characteristic fondness for the grand manner of the Beaux Arts school. He coupled this broad approach with a meticulous care for detail throughout his work, and in this he was inspired by the example of Lutyens.

'Into all his work Mr. Haywood put the unflagging energy of a single-minded man dedicated to an ideal. He was active in the founding of the Birmingham Civic Society in 1918, one of the earliest of the amenity societies, and he served as Honorary Secretary for 30 years. In his personal contacts his manner was somewhat withdrawn, whilst the trenchant expression of his public opinions made him a controversial figure in local affairs. He followed a carefully regulated routine of life, which included daily attendance at his office right up to the time of his sudden death.

'Mr. Haywood's work included the Royal Naval Hospital School at Holbrook, college buildings at Oxford and Cambridge, Carlisle Technical College, and university and school buildings in Birmingham. He was responsible for the civic decorations both for the 1937 Coronation celebrations and the Birmingham Centenary in the following year.'

He was a Lecturer on Civic Design and Town Planning at Birmingham University from 1918–43.

Mr. J. C. Goodman [*A*], who was taken into partnership in 1955, is continuing the practice.

James McIntosh Howarth [*A*] died on 6 October 1957, aged only 30.

Mr. Howarth, who obtained his Diploma of Architecture and of Town Planning at Manchester University was an Assistant to Messrs. Taylor, Roberts and Bowman [*F/A*] of Oldham.

John McIntyre [*L*] died on 21 June 1957, in Powell River, Canada, aged 78.

Mr. McIntyre was educated at the Edinburgh College of Applied Art and the Heriot-Watt College and started practice in Edinburgh. In 1912 he went to Canada, setting up practice in Vancouver. Three years later he joined the Powell River Company and from 1919 to 1935 was Townsite Manager at Powell River. He designed and built the major part of the Powell River development and public buildings, including the community centre, Dwight Hall, the War Memorial site, the Brooks School, golf club-house and Bank of Montreal, and also industrial buildings such as the Stillwater power house. In 1944 Powell River unanimously elected him as its first 'Good Citizen'. His colleagues wrote of him: 'He loved people and people loved John.' 'No one has done more to boost his home town than John McIntyre.'

William Mackintosh [*Retd. A*] died on 10 October 1957, aged 74.

Mr. Mackintosh received his training in the office of his father, also William Mackintosh, in Inverness. During the First World War he obtained a commission in the Royal Engineers. On demobilisation he worked for one and a half years as an assistant in the office of Messrs. Forsyth and Maule [*FF*] and then for seven years as chief assistant to Messrs. Hornblower and Thorp [*F/A*], when his work included housing schemes, hospital and school work. He then became chief assistant to Messrs. Paine and Hobday [*F*] and relinquished that position to take up an appointment as Housing Inspector in the Ministry of Health in 1933. He remained in the Ministry until his retirement, due to ill health, in 1953.

Maurice Kershaw Matthews, O.B.E., T.D., D.L., J.P., F.R.I.C.S. [*F*], died on 20 June 1957, aged 77.

Mr. Matthews was taken into partnership by his father, Mr. C. W. Matthews, in 1904, and together they were responsible for the erection of blocks of flats in north London. Other partnerships were subsequently entered into, including partnership with his son, Mr. J. M. Matthews, F.R.I.C.S., in 1946. Mr. G. E. P. Day [*A*], Mr. W. Stuart Smith and Mr. J. C. Rackham are continuing the practice of Matthews and Son.

Mr. Matthews was a rating specialist and a past-president of the Rating Surveyors Association. For many years he had served on the London Building Acts Committee.

He served in the South African and 1914–18 wars and was commissioned as a Colonel, and in the Home Guard during the last war, when he also acted as consultant for air-raid shelters for Islington Borough Council.

For 50 years Mr. Matthews had been connected with the Trustee Savings Bank movement, first as a local manager of the Finsbury and City of London Savings Bank, later as chairman and finally vice-president of the London Trustees Savings Bank, and also as a member of the Trustees Savings Bank Inspection Committee, and had been awarded the O.B.E. for his services. He was a Justice of the Peace and Chairman of the Hampstead Bench for eight years and, like his father before him, was also a Deputy Lieutenant for the County of London.

Harold Edward Moss, F.I.L.A. [*F*], partner in the firm of Lander, Bedells and Crompton, died on 20 September 1957, aged 69.

Mr. Ian Fraser [*A*], one of the remaining partners, writes:

'Mr. Moss's architectural training took place from 1908 until 1913 at the Architectural Association and in the office of the late Gerald C. Horsley [*F*], to whom he was articled. Before setting up on his own in practice in Gray's Inn in 1920, he served as assistant in several well-known offices including Dunn and Watson [*FF*], W. Curtis Green and Partners [*F*], H. Austen Hall [*F*], H. V. Ashley and Winton Newman [*FF*] and Professor S. D. Adshead, P.P.T.P.I. [*F*].

'In 1929 he joined the firm of Lander, Bedells and Crompton [*FF*] and became a partner in 1931.

'In his early days as a practising architect he took a great interest in Georgian architecture and specialised in designs of houses of this period and was responsible for many well-known houses in southern England. He was also successful in various competitions for housing developments. He took an active part in the work of the Royal Institute which he represented at conferences and technical committees set up by the Ministry of Works for the Codes of Practice and Standard Specifications, etc.

'He held the appointment of consulting architect to a number of London estates, including that of the Duke of Bedford. Prior to the Second World War he was responsible for the development of a 300-acre estate in Queensbury, among which were designs for approximately 1,000 houses, flats, factories, and a shopping centre, and more recently a scheme for the High Street widening at Epsom, acting also as consulting architect to the joint committee of the Surrey County Council and Epsom and Ewell U.D.C. Amongst his other recent works were designs for banks, warehouse buildings, and office blocks in the West End and City of London.

'Apart from his architectural achievements he will be remembered for his many cultural interests, his kindly humanity, and his unfailing friendship to all who came in contact with him, and his death will leave a feeling of personal loss to all who knew him.'

John Peel Nelson [*L*] died on 5 April 1957, aged 57.

Mr. Nelson received his training in the office of Sir Herbert Baker [*F*], when he worked on the Union Buildings at Pretoria. He entered into partnership with Mr. W. D'Arcy Cathcart [*F*] in 1934 in Salisbury, Southern Rhodesia, and in 1936 with the late J. D. Robertson [*F*] in Bulawayo. He started a practice in Salisbury again in 1945.

With Mr. Robertson he was responsible for Barclays Bank, Bulawayo, and, in association with Messrs. MacGillivray and Son [*FF*], for the Municipal Buildings, also at Bulawayo, and the Bulawayo Club. In Salisbury he designed the Barclays Banks in Moffat Street, Industrial Site and Que Que, and Thaine Building in Manica Road, for Allen, Wack and Shepherd (Rhod.) Ltd.—his latest building, just completed before his death. Lieut.-Colonel Clarence Bavin Adams, M.B.E. [*A*], who was taken into partnership early this year, is continuing the practice.

Mr. Nelson was also an accomplished water-colour artist.

Stanley Highfield Penlington [*A*] died on 8 December 1954, aged 78.

Mr. Penlington, who was born in England, was staff architect for the Canadian Bank of Commerce for 40 years until his retirement in 1948.

Clement Lawrence Pope [*A*] died on 9 July 1957, aged 67.

Mr. Pope was educated at Banister Court School, Southampton, and was articled to Mr. S. Kelway Pope, M.S.A. During the First World War he served in France and on return to civilian life he filled various posts in Poole, Dorset and London, including that of assistant to Messrs. Niven and Wigglesworth [*FF*] and to Mr. J. J. Joass [*F*].

In 1922 Mr. Pope went to South Africa to take up an appointment in the Public Works Department. Returning to England in 1932 he worked with the Poole and Bournemouth Corporations, the Air Ministry and the L.C.C., until in 1951 he became an assistant to Messrs. T. P. Bennett and Son [*FF*].

Mr. Pope was a keen musician and had played in orchestras both in England and South Africa.

Lieut.-Colonel George Oakley Scorer [*Retd. F*] died on 22 September 1957, aged 84.

Colonel Scorer was educated at Harrow and trained at the Royal College of Art and the Architectural Association. He was articled to Mr. Ralph Selden Wornum [*F*].

During the First World War he served with the B.E.F. in France, first as Works Officer, then Assistant Senior Works Officer and lastly as Staff Officer to the C.R.E. In 1918 he was appointed Inspector of Works, and Controller for France and Belgium, to the Imperial War Graves Commission, under Sir Fabian Ware. He was demobilised with the rank of Lieutenant-Colonel.

After the war Colonel Scorer returned to private practice. He became a retired Fellow in 1954, having been in practice for well over fifty years.

He taught at the Epsom School of Art for many years.

Sir George Edward Stott, Bt. [*Retd. L*], died on 11 July 1957, aged 70.

Sir George Stott was educated at Rossall and joined his father, Sir Philip Sidney Stott [*Hon. A*], first baronet, in practice at Oldham in 1907. His father specialised in the design of cotton mills and Sir George became an expert too, and also in factory buildings generally and in domestic architecture in Cotswold stone. He took over the practice in 1921 and retired in 1935.

He and his father were responsible for about 600 cotton mills built all over the world, but especially in Lancashire, Düsseldorf, Germany, and Japan, and more specifically the Dunlop Rubber cotton mills and extensions to Fort Dunlop and a large carpet mill at Stourport.

Sir George was commissioned in the Territorial Army in 1909 and served with The Manchester Regiment during the 1914–18 war in Egypt, Gallipoli, and France. During the Second World War he served in the Royal Air Force. He was High Sheriff of Gloucestershire from 1947–48.

Basil Hope Sutton [*Retd. F*] died on 10 January 1958, aged 75.

Mr. Sutton started private practice in Reading in 1908 and later transferred his practice to Newbury and Marlborough. In 1946 he entered into partnership with Mr. J. O. Griffin [*F*], and in 1951 Mr. J. P. B. Sweetnam [*A*] joined the partnership. Messrs. Griffin and Sweetnam are continuing the practice of Sutton, Griffin and Sweetnam.

Mr. Griffin writes:

'Sutton's work was all domestic and of an intimate type—the remodelling of large country houses being his favourite—and he leaves a fine record of such work throughout Berkshire, Wiltshire and Dorset, including Cantorist House, Berks, and Bowers Hill Lodge, Wilts. His was individual, instructive work with an essential atmosphere of its own and of the surroundings in which it exists—both architecturally and topographically.'

Alan Tatlow [*A*] died on 23 December 1957, aged 50.

Mr. Tatlow, who received his training at the Architectural Association, was employed by Messrs. Unilever Ltd., mostly on works in West Africa.

Albert Isaac Turner [*Retd. A*] died on 13 September 1957, aged 71.

Before his retirement Mr. Turner was assistant architect to Finsbury Borough Council.

Lewis Edward Wade [*F*] died on 6 July 1957, aged 66.

Mr. Wade was articled to Messrs. Kitching and Lee of Middlesbrough and Darlington in 1906. In 1934 both he and Mr. J. Pearson Rudd [*F*] were taken into partnership by the late Mr. R. R. Kitching [*F*]. Mr. Rudd and Mr. C. P. Darnton [*A*] are continuing the practice of Kitching and Co.

The principal works with which Mr. Wade was concerned were housing schemes for Shildon and Billingham U.D.C.s and Stokesley R.D.C., factories for the North Eastern Trading Estates, Ltd., including the factory and canteen of the Guisborough Shirt Co., Ltd., licensed premises in north Yorkshire and south Durham, and most recently the 'Royal Arms' at Peterlee, the first public-house in the new town, opened in 1954.

Mr. Wade was Vice-Chairman of the Tees-side Branch of the Northern Architectural Association from 1952–53.

Bernard Michael Ward [*Retd. F*] died on 16 May 1957, aged 82.

Mr. Ward studied at Denstone College and Liverpool University. From 1907 to 1921 he practised in Yokohama, Japan, where his work included the Union Church, Yokohama, a war memorial gateway, and domestic architecture. On his return to England he practised in Liverpool and Wirral until retirement. He was concerned with the screen, altar rails and reredos of All Saints Church, St. Helier, Channel Isles, and a chapel window for a church in Glossop, Derbyshire. Long after retiring he worked again during the Second World War in Liverpool and later with the War Damage Commission.

Mr. Ward was a Past President of the Liverpool Architectural Society and had represented that Society on the R.I.B.A. Council and the Allied Societies' Conference.

John Edward Wheeler [*A*] died on 8 July 1956, aged only 37.

Mr. Wheeler received his training at the Leicester School of Architecture, becoming assistant to Mr. George Nott [*F*] in 1937 and subsequently to Messrs. Pick, Everard, Keay and Gimson [*F/A*] of Leicester until 1940.

During the Second World War he served in the Royal Leicester Regiment, later transferring to the Royal Engineers, when he went to the Near East (Iran) with Brigade H.Q.

After the war he returned to Messrs. Pick, Everard, Keay and Gimson and was engaged on contracts for local authority housing, University College extensions, a power station and other domestic, commercial and industrial work. In 1953 he became senior assistant on the staff of Mr. T. A. Collins [*F*], architect for

the County of Leicester, and two years later senior assistant to Corby U.D.C., Northants.

John Charles Parker Whettam [*L*] died on 12 March 1957.

Mr. Whettam was educated at Bishop Wordsworth's School, Salisbury, and served his articles in Weymouth. He entered Admiralty service at Chatham in 1902. There and later at Portsmouth he worked on naval buildings, being particularly concerned with churches and chapels in naval barracks and hospitals. During the latter part of his service he worked in conjunction with the Civil Engineer-in-Chief's testing laboratories on all types of building materials and specialised on flooring. In 1943 he joined the Building Centre. Since the war he had been in charge of the Records Section.

He had a lifelong interest in church work and was a Sub-Deacon of the John Keble Church, Mill Hill.

Members' Column

This column is reserved for notices of changes of address, partnerships vacant or wanted, practices for sale or wanted, office accommodation, and personal notices other than of posts wanted as salaried assistants for which the Institute's Employment Register is maintained.

APPOINTMENTS

Mr. John B. Davidson, A.M.T.P.I. [*A*], has taken up the appointment of Town Planner with the Government of Jamaica and his address is now c/o Town Planning Department, South Odeon Avenue, Halfway-Tree, Jamaica, B.W.I.

Mr. W. T. Jackson, M.B.E., A.M.T.P.I. [*A*], Director of Maintenance Services at the Ministry of Works, has been apppointed the Ministry's Regional Director at Reading, in succession to **Mr. G. H. M. Williams,** who has returned to the London headquarters to take up appointment as an assistant secretary on administrative duties.

Mr. James Kimm [*A*] has been appointed County Architect to the Joint County Council of Moray and Nairn and his address is now c/o County Buildings, Elgin, Morayshire (Elgin 2603).

Mr. Michael G. Munday [*A*] has been appointed Lecturer at the Faculty of Architecture, Royal Technical College of East Africa, Nairobi, Kenya. He will be pleased to continue to receive trade catalogues, etc., at his unchanged postal address of P.O. Box 6595, Nairobi, Kenya.

Mr. Kenneth Peers [*A*] has been appointed Company Architect to the Buildings Division of Combined Technical Services Ltd., of Park House, Wick Road, Egham, Surrey, where he will be pleased to receive technical literature, particularly that relating to industrial architecture.

PRACTICES AND PARTNERSHIPS

Mr. Kenneth Bacon [*A*] is now an associate in the firm of **Smith Carter Katelnikoff Associates** of 65 Dewdney Avenue, Winnipeg 2, Manitoba, Canada.

Mr. C. S. M. Davidson [*F*], retired Chief Architect, Western Region, Nigeria, is now in private practice at Pound Lane, Nadderwater, near Exeter, where he will be pleased to receive general trade catalogues and information on prefabrication and cladding.

Mrs. Elizabeth A. Fitzgerald [*A*] has begun private practice on Kibagare Estate, Kabete, (P.O. Box 2206), Nairobi, Kenya, East Africa (Kabete 349), where she will be pleased to receive trade literature.

Mr. Michael James, A.M.T.P.I. [*A*], has been taken into partnership by **Messrs. Hooper, Belfrage and Gray (Percy Gray** [*F*] and **A. C. Birch** [*A*]), of Donington House, Norfolk Street, London, W.C.2. The style and address of the firm will remain unchanged.

Mr. J. Stuart Johnson [*A*] has disposed of his practice to **Mr. Arthur A. Attree** [*A*], who will continue the practice under the style of **Johnson and Attree** at the same address, 19A Silver Street, Gainsborough, Lincs., where he will be pleased to receive trade literature. Mr. Stuart Johnson's address is now c/o Public Works Department, Government of Singapore.

Messrs. Slater and Uren (J. Alan Slater [*F*] and **R. H. Uren** [*F*]) of 5 Gower Street, London, W.C.1, have taken **Mr. A. E. Hodnett** [*A*] into partnership as from 1 January 1958. The name of the firm will remain unchanged.

Messrs. Raglan Squire and Partners [*F/L*] of 3 Hobart Place, London, S.W.1, have taken **Mr. Peter Winther,** A.R.I.C.S. [*A*], into partnership.

CHANGES OF ADDRESS

Miss Pamela M. Cunnington [*A*] has moved to 59 Great Ormond Street, London, W.C.1 (Chancery 4174).

Messrs. Russell Diplock Associates [*A*] have changed their address to 235 Vauxhall Bridge Road, Westminster, London, S.W.1 (Tate Gallery 4040 and 0771–2).

The address of **Mr. David J. Duprée** [*A*] is now c/o Messrs. Godwin and Hopwood, 14 Berkley Street, P.M.B. 2148, Lagos, Nigeria, British West Africa.

Mr. Harold King [*A*] has changed his address to 'Bryn Eirias', Lyth Hill Road, Bayston Hill, Shrewsbury (Bayston Hill 444), where he will be pleased to receive trade literature.

Messrs. Miller and Tritton (Peter F. N. Miller [*A*] and **William Tritton** [*A*]) have changed their address to 39 Sydney Street, London, S.W.3. Their telephone number remains Flaxman 4314.

Mr. Paul Ospalak [*A*] has changed his address to Apartment 803, 74 Spadina Road, Toronto, Ontario, Canada.

Mr. H. A. Patton, A.M.T.P.I. [*A*], has moved to 29 Wellington Place, Belfast (Belfast 24400), where he will be pleased to receive trade catalogues.

The address of **Mr. J. S. Simpson** [*A*] and his wife, **Mrs. E. M. Simpson** [*A*] (formerly **Miss E. M. Baker**) is Cuillin, Uplawmoor, Renfrewshire.

Mr. J. C. Stevenson [*L*] has changed his address to 'Stoke House', Roxwell Road, Writtle, Essex.

The address of **Mr. J. S. Torrance** [*A*], who has taken up an appointment with the Government of Canada, is now 301 Brittany Drive, Ottawa 2, Ontario, Canada.

Mr. Peter J. W. Ware [*A*] has moved his office to 10 Dowry Square, Hotwells, Bristol 8.

PRACTICES AND PARTNERSHIPS WANTED AND AVAILABLE

Associate (32), educated at Sherborne and A.A., with five years' general experience in London practice in charge of handling projects, is now looking for responsible post in established provincial practice with view to partnership. South or south-west England preferred. Capital available. Box 2, c/o Secretary, R.I.B.A.

Associate Dip. Arch. (33), seeks partnership in an established practice in the midlands or south. Some capital available. Box 26, c/o Secretary, R.I.B.A.

Wanted by 42-year-old experienced member, position leading to partnership in coastal or inland town in Sussex, Kent or Hampshire. Some capital available. Box 27, c/o Secretary, R.I.B.A.

Long-established west country practice seeks young qualified architect to control and develop newly opened branch office. Partnership would be guaranteed to suitable applicant after short probationary period. Full particulars in confidence to Box 28, c/o Secretary, R.I.B.A.

Energetic Fellow, with expanding practice in London and north-west England, seeks amalgamation with large firm. Box 30, c/o Secretary, R.I.B.A.

Associate (40) seeks small practice in Hampshire or West Sussex. Fifteen years' varied experience, schools, domestic and business premises. At present acting as senior assistant architect with West End firm. Capital available. Box 31, c/o Secretary, R.I.B.A.

On retirement of Senior Partner, Associate Dip. Arch. (35), with established London practice, will require partner of similar age. Some capital and personal contacts and a good social background essential. Box 32, c/o Secretary, R.I.B.A.

WANTED

Wanted. 3-screw dumpy level complete with tripod and staff. Box 29, c/o Secretary, R.I.B.A.

The Royal Institute of British Architects, as a body, is not responsible for statements made or opinions expressed in the JOURNAL.

A.B.S. HOMES TRUST

Old People's Homes at Frenchlands Hatch, East Horsley

The A.B.S. Homes Trust is almost ready to announce the completion of the first stage of the Housing programme visualised and planned from the inauguration of its Centenary Year Fund in 1950.

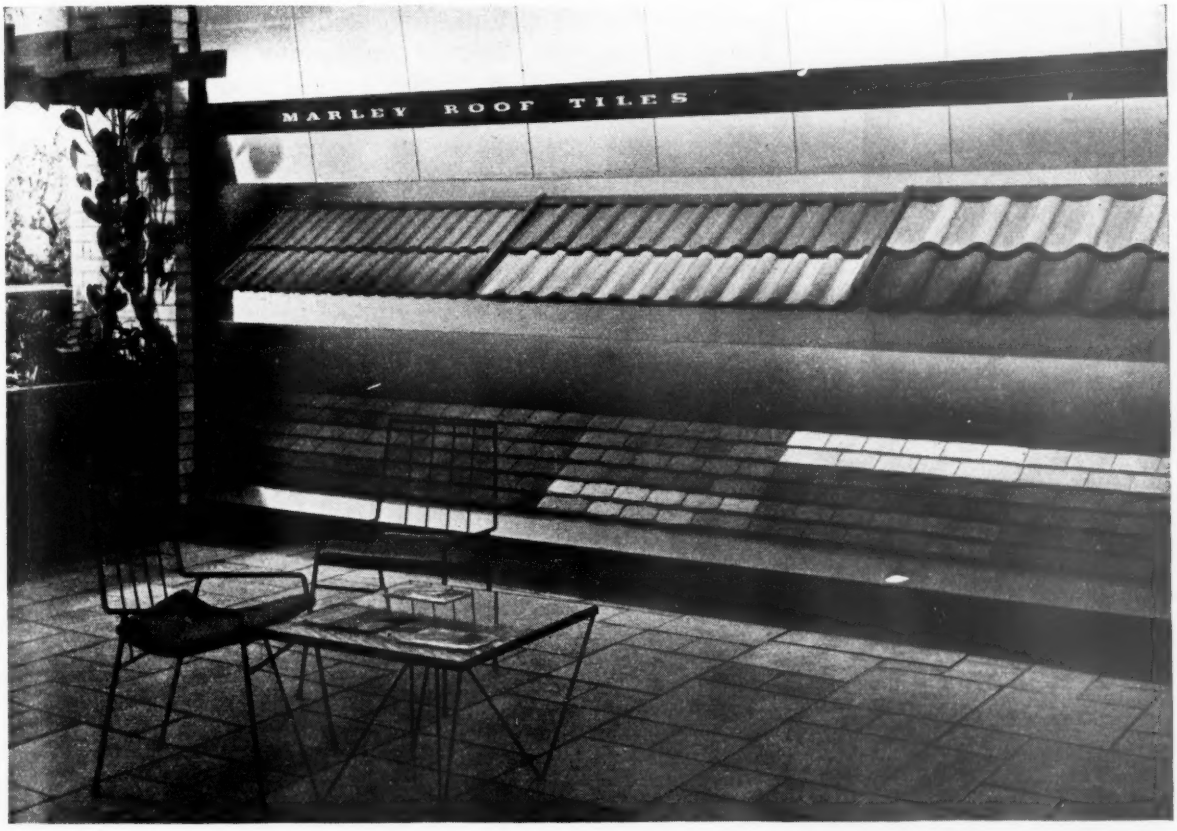
The first group of six bungalows is now ready, as well as the warden's house and a clubroom, and the occupants will be moving in early next month. The old people will be bringing their own furniture, but curtains are being provided by the Trust as well as furniture for the clubroom. Several gifts have been received for this purpose including a television set and six easy chairs, but there will still be a bill outstanding of £355 for the cost of a carpet, curtains and some other items.

If any member would be willing to make a contribution towards meeting this account—perhaps a member who has up to now overlooked the Centenary Fund—the A.B.S. would be most grateful, as indeed it is to all subscribers who have helped to bring about this long-awaited result.

The scheme provides for the eventual provision of 20 bungalows on this estate.

Eye-level selection . . . AND A CAUTION!

Part of the permanent exhibition at the new Marley showrooms in Tottenham Court Road is devoted to roof tiles. Here, in leisurely comfort (and with experts handy if you should need them) you can make your choice from the widest range of roof tile colours in the world, in the five popular shapes: Plain, Anglia, Yeoman, Ludlow and Westwold. But it is only fair to warn you to allow plenty of time — the ingenious arrangement of the many Marley products holds considerable attraction . . .

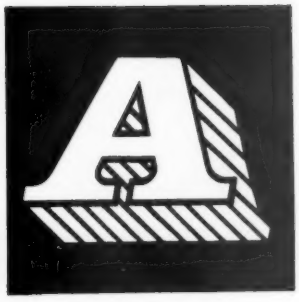


All Marley Roof Tiles are covered by the Marley dual guarantee: 1. That Marley Tiles will not laminate or decay for 50 years. 2. When fixed by Marley craftsmen, they will be maintained free for 10 years.

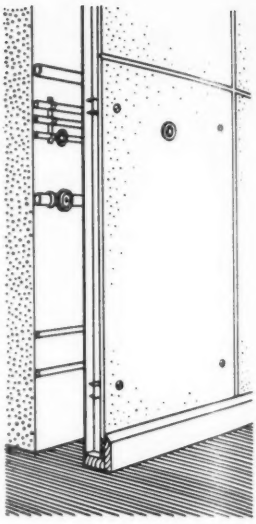
Roof tiles by **MARLEY**

THE MARLEY TILE COMPANY LTD., SEVENOAKS, KENT *Telephone: SEVENOAKS 55255.*
London showrooms: 251 Tottenham Court Road, W.1

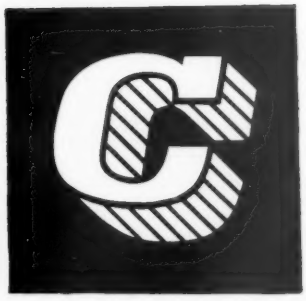
Not for an age, but for all time
R.27

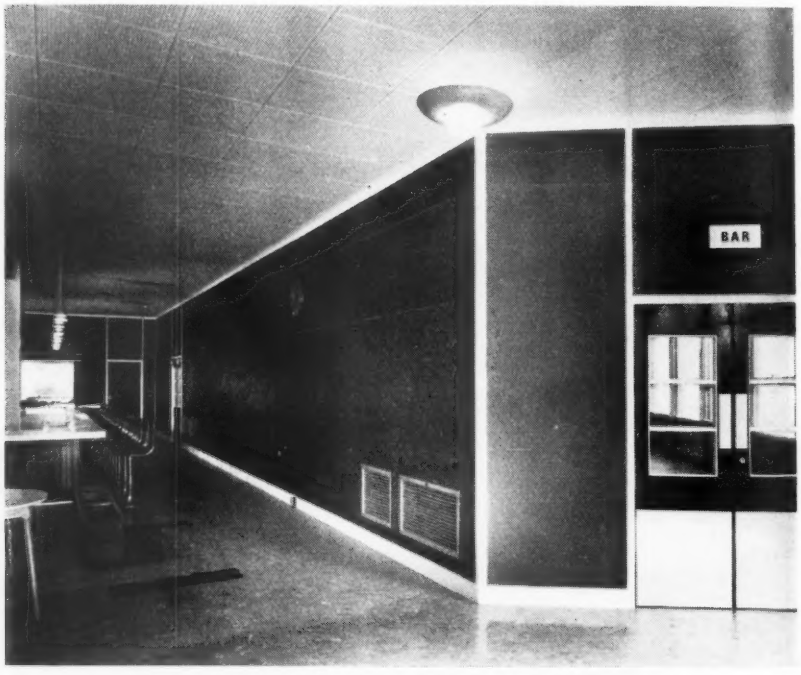


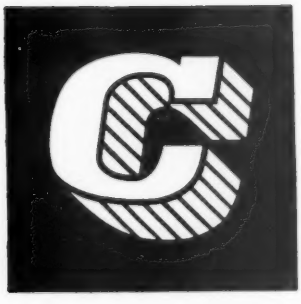
CASEBOOK No. 1



It was required to line a corridor in a research building with easily removable self finished cladding to cover the numerous piped supply services running along the corridor and feeding the laboratories on either side. The method devised by A.C.C. was to erect light steel framework and apply asbestos insulation board panels ½ inch thick. The dado panels were covered with plastic coated cloth in bright colours giving a hard wearing maintenance free surface. The access panels are fitted with coin operated screw fasteners and are located wherever cut-off valves occur in the service lines. The wall lining and suspended ceiling were designed as an integrated whole.







At B.E.A. Air Terminal, Kensington, A.C.C. supplied and fixed all internal partitions and suspended ceilings. Designed and detailed by A.C.C., in collaboration with the chief staff architect, B.E.A. (R. S. Harvey, A.R.I.B.A.) and the main contractor's architect (H. S. Smith, A.R.I.B.A.) this is an excellent example of the service offered in solving problems of total interior finishes for modern buildings.

ANDERSON CONSTRUCTION COMPANY LIMITED

Clifton House • Euston Road • London N.W.1 • Tel: EUSton 7465



. . there's no delay

when you specify . .

T&M

Structural Steelwork for Industrial buildings

Enquiries invited for all types of medium and light Constructional Steelwork. Our Technical Staff are available at all times for consultation, and promptitude in completion is guaranteed with all contracts



TEASDALE & METCALFE LTD
NORTH STREET · WETHERBY · YORKSHIRE
Telephone: WETHERBY 4011/2

OUT OF THE BLUE CIRCLE

NEW

SUPER

SNOWCEM

WATERPROOF CEMENT PAINT



During the twenty years Snowcem has been on the market it has gained a world-wide reputation for its efficiency and economy for painting concrete, cement rendering, suitable brickwork etc.

Now an even better product—*Super* Snowcem—takes its place. It has been evolved by the research technicians of the Blue Circle Group and has the following advantages.

- **Brighter colours**
- **Easier and quicker to mix**
- **New attractive colour range**
- **Greater degree of opacity and obliteration**

Write for leaflet and shade card to:

THE CEMENT MARKETING COMPANY LIMITED
PORTLAND HOUSE, TOTHILL STREET, LONDON, S.W.1
G. & T. EARLE LTD, HULL
THE SOUTH WALES PORTLAND CEMENT & LIME CO. LTD, PENARTH, GLAM.

FOR BETTER DECORATION & PROTECTION AT LOW COST

T1588

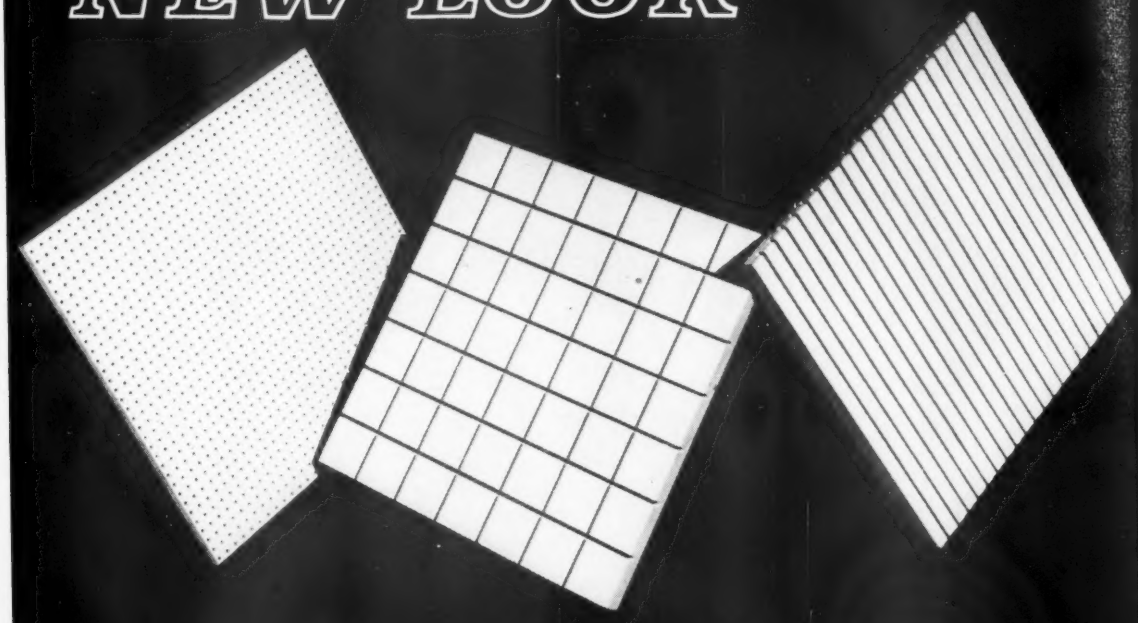


people are beginning to expect warmth and comfort – peace and quiet with

FIBREGLASS
TRADE MARK

FIBREGLASS LIMITED, ST. HELENS, LANCS · ST. HELENS 4224

NEW LOOK



in ACOUSTICS!

★ Swiss pressed wood-fibre Perforated, Rilled and Chequered acoustic tiles, (shown left, right and centre above).

★ Contemporary acoustic wall and ceiling treatments in new and decorative materials.

★ High acoustic efficiency, absorption co-efficients increasing progressively from 0.45 at 250 c.p.s. up to 0.90 at 4,000 c.p.s.

★ Low thermal conductivity (0.35 B.T.U/in./sq.ft./hr./°F diff.) thus providing valuable heat conservation at no extra cost.

Surveys, estimates, designs & specifications without obligation

HERMESEAL



HERMESEAL ACOUSTICS LIMITED

HEAD OFFICE: 4 PARK LANE, LONDON, W.1. Telephone: GROsvenor 4324 (5 lines).

The brilliant whites and beautiful tints of modern products depend on TITANIUM OXIDE ... finest white pigment in the world !

In PLASTICS as well as PAPER PAINT RUBBER LEATHER TEXTILES

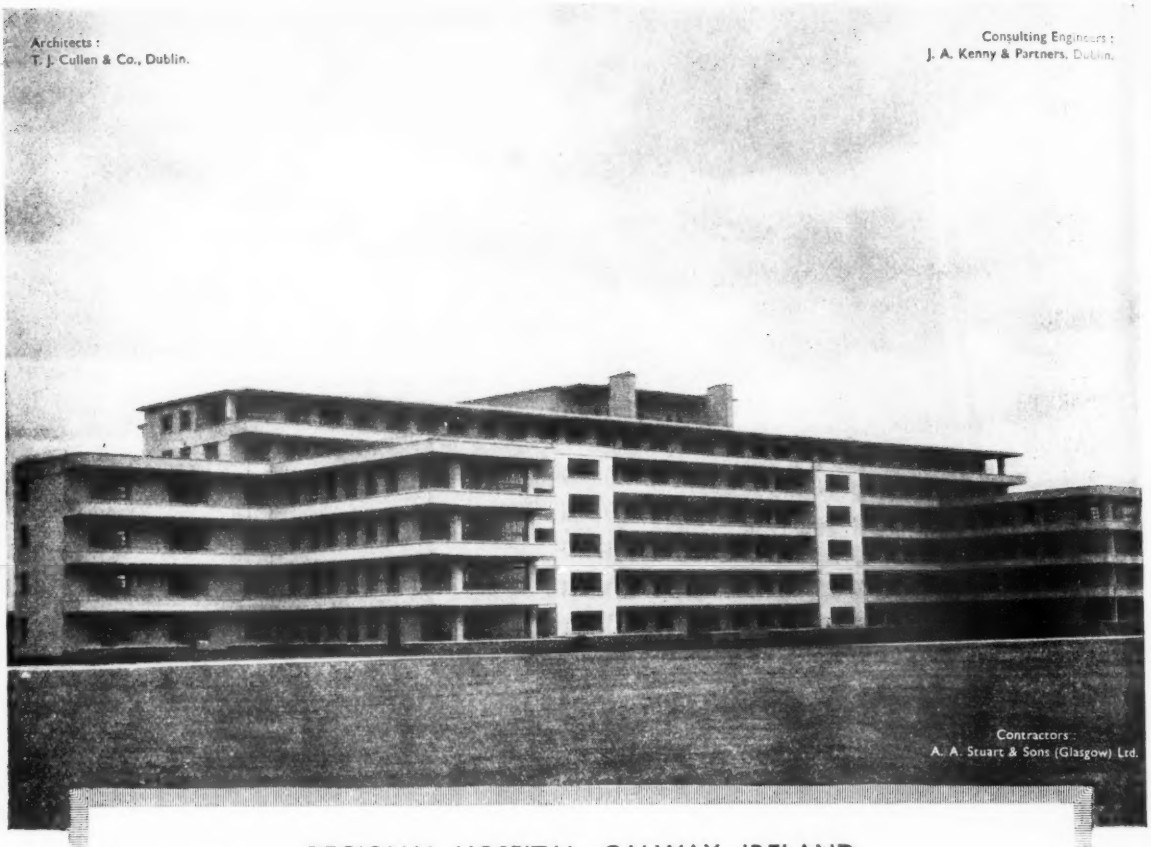


British Titan Products brighten products

BTP TITANIUM PIGMENTS

BRITISH TITAN PRODUCTS COMPANY LIMITED
10 Stratton Street London W.1

28-1C



REGIONAL HOSPITAL, GALWAY, IRELAND

Main Block

Heating, Ventilation, Sanitation, Mechanical & Fire Services

by

MATTHEW HALL

THE

MATTHEW HALL

GROUP OF COMPANIES

ESTD. 1848



MATTHEW HALL

AIR CONDITIONING · HEATING · ELECTRICITY · SANITATION · AUTOMATIC SPRINKLERS

MATTHEW HALL HOUSE, DORSET SQUARE, LONDON, N.W.1

Glasgow · Manchester · Bristol · Belfast · Johannesburg · Germiston · Durban

Cape Town · Welkom · Bulawayo · Salisbury (Central Africa) · Ndola · West Indies

Extraordinal! Exceptionary!

" This underground gymnasium is unique," said the instructor. " Here's where we make ourselves tough and strong."

" Those are words I always associate with salt glazed vitrified clay," said Baron Rabbit, "you know, the stuff those pipes are made of."

" Vitrified clay pipes are certainly tough. And they're smooth and acid-resisting."

" They are the longest lasting sewer pipes," said the Baron. " They stay down for ages, save the surface people a ton of money."

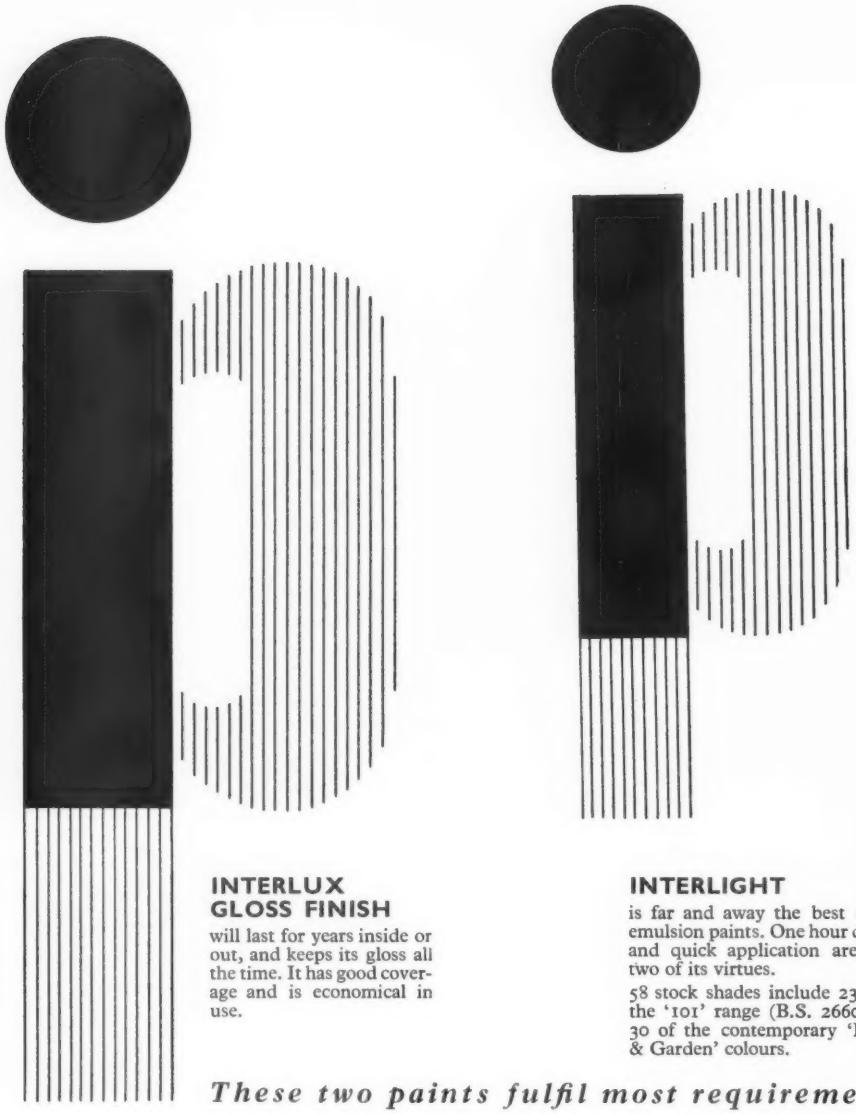
" They're the underground champions," said the instructor. " Salt glazed vitrified clay pipes are extraordinal."

" Salt glazed vitrified clay pipes are exceptionary ! " agreed the Baron.

Put down Salt Glazed Vitrified Clay Pipes and Conduits — they stay down for centuries !

NATIONAL SALT GLAZED PIPE MANUFACTURERS' ASSOCIATION





INTERLUX GLOSS FINISH

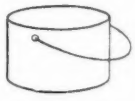
will last for years inside or out, and keeps its gloss all the time. It has good coverage and is economical in use.

INTERLIGHT

is far and away the best of the emulsion paints. One hour drying and quick application are only two of its virtues.

58 stock shades include 23 from the '101' range (B.S. 2660) and 30 of the contemporary 'House & Garden' colours.

These two paints fulfil most requirements





International Paints Ltd.

Head Office: GROSVENOR GARDENS HOUSE, LONDON, S.W.1
TELEPHONE: TATE GALLERY 7070 (15 LINES)

REGISTERED TRADE MARK

A WORLD-WIDE PAINT ORGANISATION

CANADIAN TIMBER

...from Canada's vast forests a wood for almost every need!



CANADIAN SPRUCE

Special Properties

Excellent strength-weight ratio
Medium soft textured
Odourless and tasteless
Very good nailing and gluing properties
Highly resilient

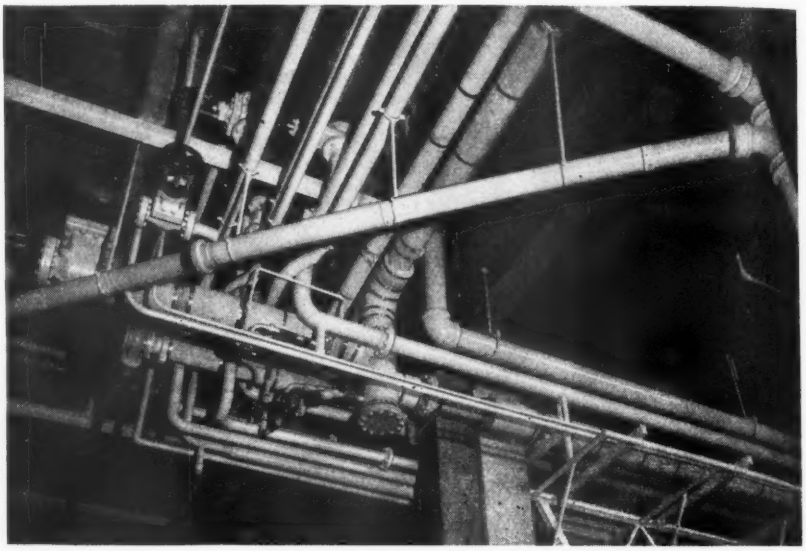
Typical Uses

Scaffold planks
General construction
Case making and food packaging
Ladders, oars, paddles and boat manufacturing
Musical instruments and sounding boards

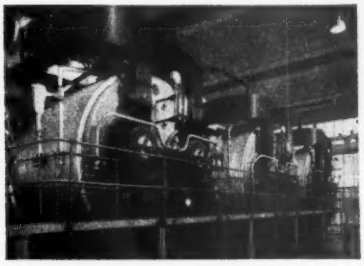
For further information on Canadian Woods, contact: Commercial Counsellor (Timber), Canada House, London. S.W.1.

All types of service installation

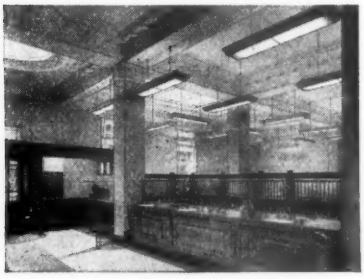
PLANNED AND INSTALLED AS A SINGLE CO-ORDINATED OPERATION



INDUSTRIAL, CHEMICAL, H/V AND ELECTRICAL SERVICES *installed by E.S.I. for Wm. R. Warner & Co. Limited, at their new Cosmetics and Pharmaceutical Factory, Eastleigh, Hants.*



BOILER INSTALLATION *at the Pressed Steel Company's new works near Swindon, Wilts. All industrial, H/V and electrical services installed by E.S.I.*



ELECTRIC LIGHTING INSTALLATION *carried out by E.S.I. at the London Office of the Bank of London and South Africa.*

Specialised skill in every branch of modern service installations is provided by E.S.I. Where a project calls for one or many different services E.S.I. can provide the unique advantages of co-ordinated planning carried out from start to finish by a single team working under one direction. This dovetailed planning at every stage means smoother and speedier site operations with greater regard to overall design and resulting economy in overall costs.

The system has proved its value in many industrial, commercial and domestic installations at home and overseas.

ESI

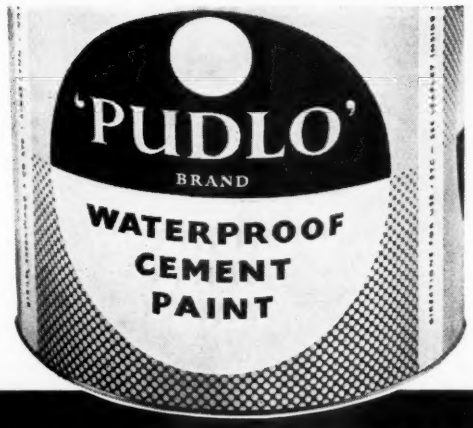
Specialists working together

ENGINEERING SERVICE INSTALLATIONS LTD

258 GRAY'S INN ROAD, LONDON, W.C.1. Tel: TERminus 3388

and at LIVERPOOL · MANCHESTER · WORTHING & OVERSEAS

TGA ES36



'PUDLO' WATERPROOF CEMENT PAINT

for complete protection and durability

'PUDLO' Cement Paint contains the famous 'PUDLO' Brand Waterproofing Powder, and guarantees the protection of outside surfaces against all weather conditions. It also incorporates a surface active agent which ensures spread, evenness and good bonding to the surface.

'PUDLO' Cement Paint is in powder form, and the mix requires no other process than adding water and stirring; it is then ready for use at once. When dry it forms a hard, durable surface which can be washed without danger of flaking or peeling.

'PUDLO' Cement Paint is available in an attractive range of colours, and is entirely suitable for the protection of all types of buildings including factories, public buildings, flats, houses, farm buildings, hospitals, hotels, etc.

WHEN YOU USE 'PUDLO' CEMENT PAINT YOU GET THE MAXIMUM WATERPROOFING PROTECTION



H.P.5445

Get full particulars of 'PUDLO' Cement Paint NOW—they are available on request.

'PUDLO' BRAND

OTHER 'PUDLO' BRAND PRODUCTS INCLUDE:

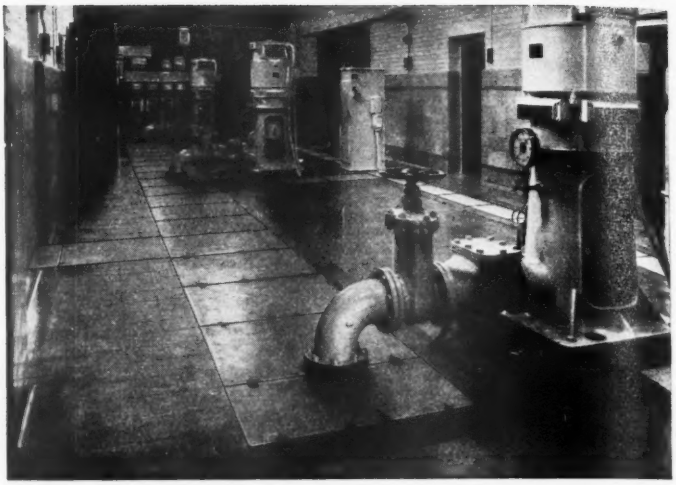
Cement Paint Primer
Cement Waterproofing Powder
External Water Repellent
Cement Bonder
Plaster Bonder
Mortar Plasticiser
Frost Protector and
Rapid Hardener
Liquid Cement Additive and
Feusol Fire Cement

The word 'PUDLO' is the registered Trade Brand of Kerner-Greenwood & Co. Ltd., by whom all articles bearing that Brand are manufactured. *Sole Proprietors and Manufacturers:*

KERNER-GREENWOOD & COMPANY LTD.
KING'S LYNN · NORFOLK

ELKINGTON GATIC

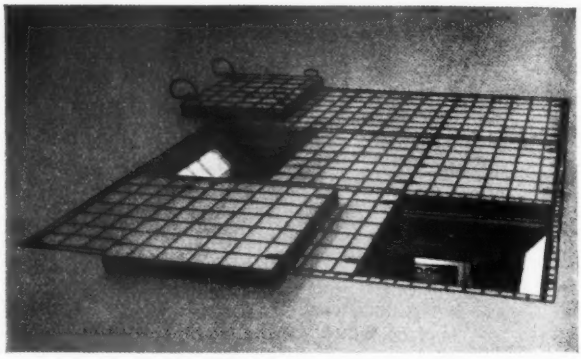
COVERS AND FRAMES FOR ALL PURPOSES



"Elkington-Gatic" Medium Light duty duct covers, installed in Kings Road Pumping Station for the Bury St. Edmunds Corporation.

Amongst the many advantages of the "Elkington-Gatic" design covers besides being non-rocking and watertight will carry any load from heavy fast moving road to foot traffic. They can be supplied in any length and span (up to 4′ 0″ with use of cross supports).

Also available are "Elkington-Gatic" non-rocking Gratings in any length and in spans of 6″ to 18″ in multiples of 3″.



"Elkington-Gatic" Heavy Yard multiple part cover—size 96″ × 120″ clear opening — 9 in No. covers supported by 2 in No. removable beams installed over Electricity Sub-Station in Switzerland.



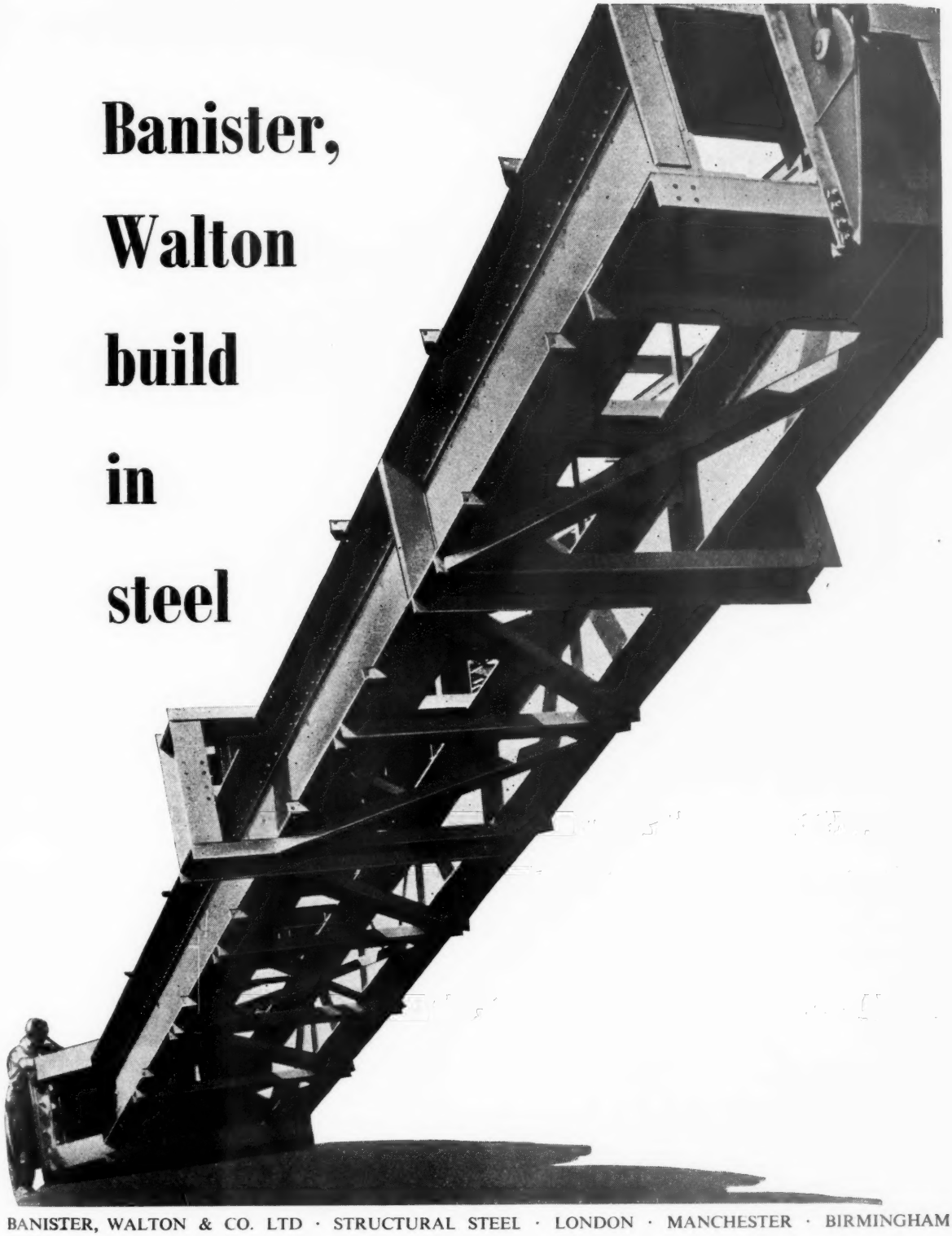
The adaptability of "Elkington-Gatic" duct covers is illustrated by the installation of those over curved ducts—Isleworth Fire Station, Middlesex.

THE DOVER ENGINEERING WORKS LIMITED

TALBOT HOUSE, ARUNDEL ST.
LONDON, W.C.2

COVENT GARDEN 0834 (2 LINES)

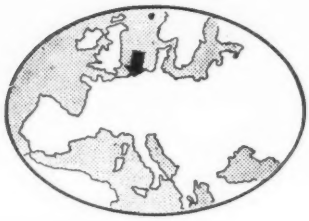
Banister, Walton build in steel



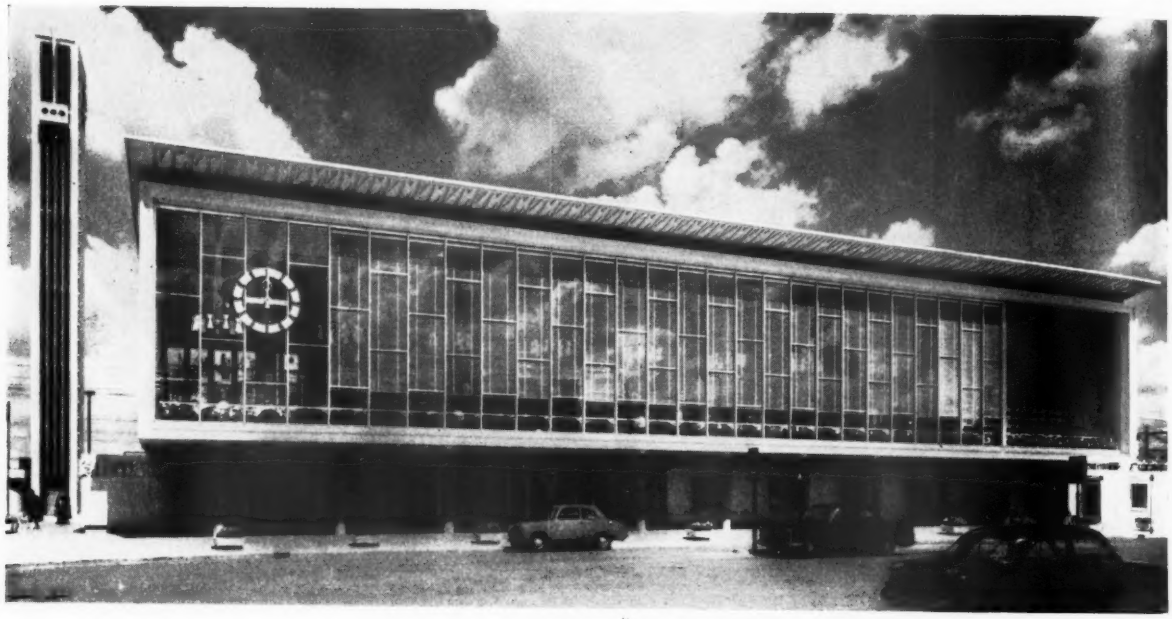
BANISTER, WALTON & CO. LTD · STRUCTURAL STEEL · LONDON · MANCHESTER · BIRMINGHAM

WC N 3260

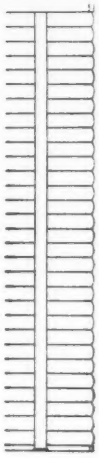
Here



and everywhere in Europe



Architects all over Europe are finding, in Luxaflex Aluminium Venetian Blinds, a truly practical system of controlled window lighting in a most pleasing, durable, and easily-maintained form. An example of this contemporary trend can be seen in the new railway station at Eindhoven in Holland, where the undeniable beauty of Luxaflex Blinds becomes an integral component of the overall picture. Aesthetic appeal apart, Luxaflex Venetian Blinds are a functionally faultless combination of first-class design, fresh materials and trouble-free construction.



✦ **Luxaflex Thermofort slats**

Only Luxaflex Thermofort slats can be bent with impunity. Not just once, but over and over again, without fear of damage or deformation. Thanks to a new tempering process, they are the most resilient slats in the world!

✦ **Non-shrink, washable plastic tapes**

✦ **Flexible nylon cords**

✦ **Easy-to-operate mechanism**

✦ **Many decorative colour combinations**

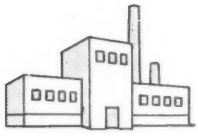
Specify LUXAFLEX ALUMINIUM VENETIAN BLINDS *with Luxaflex Thermofort slats*

Luxaflex venetian blinds

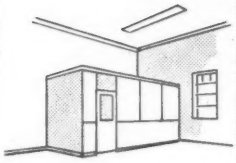
Write for descriptive literature, technical data, and list of Luxaflex manufacturers, to:

HUNTER DOUGLAS (GREAT BRITAIN) LIMITED, 162 BROMPTON ROAD, LONDON S.W.3.

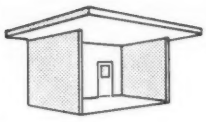

ROBERTSON THAIN
ANNOUNCE
GALBESTOS PROTECTED METAL (G.P.M.)
IN A
NEW BOX-RIB SECTION
PRESSED-SECTION OF SHARP, BOLD PROFILE
ATTRACTIVE APPEARANCE
SUITABLE FOR SINGLE-SKIN CLADDING OR AS THE OUTER SKIN FOR 'QS' WALLING
SWAGED END LAPS
SUPPLIED AND FIXED BY THE ROBERTSON ERECTION SERVICE
CAN BE LINED WITH INSULATING BOARD
AVAILABLE IN MAROON OR BLACK
RP
This new Box-Rib Sheet provides a rapid and attractive means of cladding vertical areas. This is yet another development by Robertson Thain PIONEERS OF PROTECTED METAL SHEETING.
Write today for literature
ROBERTSON THAIN LTD
ELLESMERE PORT · WIRRAL · CHESHIRE
Telephone: Ellesmere Port 3622
Telegrams: 'Robertroof'
Sales Offices: BELFAST · BIRMINGHAM · CARDIFF · EXMOUTH · GLASGOW
LIVERPOOL · LONDON · MANCHESTER · NEWCASTLE · SHEFFIELD
Associated Companies or Agents in most countries throughout the world



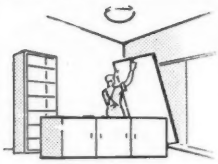
FOR THE BIG CONTRACT



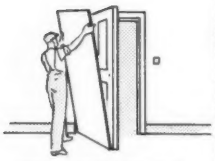
FOR OFFICE PARTITIONING



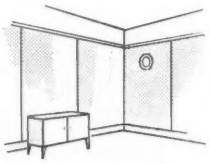
FOR EXHIBITION STANDS



FOR MODERN SHOP-FITTING



FOR THE JOBBING BUILDER



FOR DECORATIVE PANELLING



FOR RAPID CONSTRUCTION



FOR THE GREAT 'DO-IT-YOURSELF' ARMY

SOVEREIGN HARDBOARD

1898

MAKE A FIRST-CLASS JOB OF IT

Whenever the job demands first-class Hardboard you are on the safest possible ground when you specify 'SOVEREIGN'. The latest addition to the famous Sundeala range, 'SOVEREIGN' is a board of exceptional quality and finish. Produced by the most advanced machine methods, it is thoroughly heat treated and moisture conditioned for maximum strength and hardness. For work to be proud of—specify 'SOVEREIGN'.

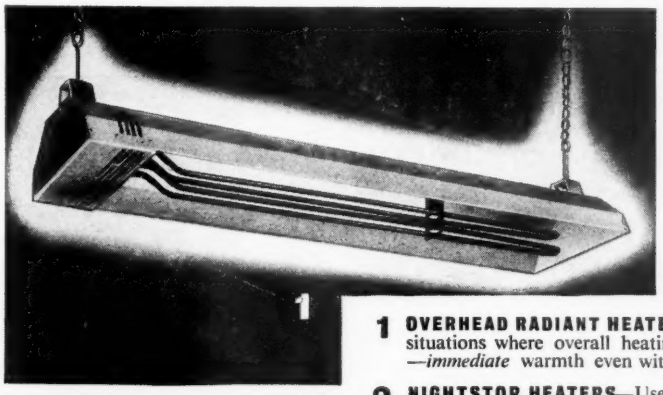
SUNDEALA BOARD CO. LIMITED

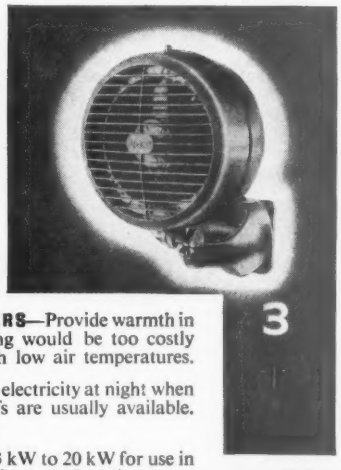
Head Office: Aldwych House . London . W C 2 . Chancery 8159 . *Newcastle:* Northumbria House . 2 Portland Terrace . *Glasgow:* Croftfoot 3711

Every Heating Installation has its own problem

Which G.E.C. system is best for you?

The G.E.C. manufactures a full range of industrial electric heating equipment, providing complete installation schemes to meet any type of individual requirement. A G.E.C. planned scheme means all-round economies—in layout, erection time and fuel consumption—points well worth considering in these days of rising costs and fuel shortages.



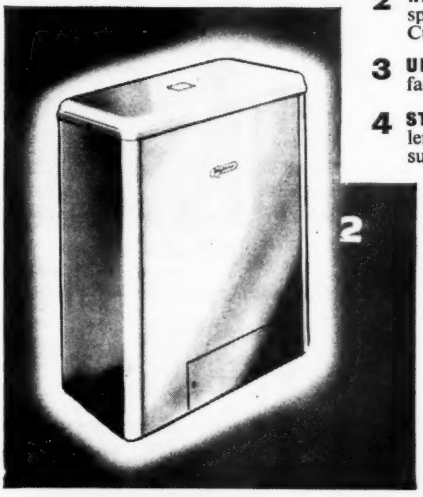


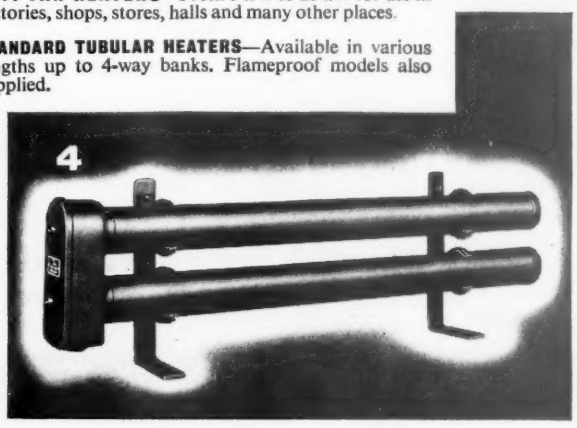
1 OVERHEAD RADIANT HEATERS—Provide warmth in situations where overall heating would be too costly —*immediate* warmth even with low air temperatures.

2 NIGHTSTOR HEATERS—Use electricity at night when special low cost off-peak tariffs are usually available. Cut heating costs by up to 50%.

3 UNIT FAN HEATERS—From 3 kW to 20 kW for use in factories, shops, stores, halls and many other places.

4 STANDARD TUBULAR HEATERS—Available in various lengths up to 4-way banks. Flameproof models also supplied.





G.E.C.

Write for publication H5 for further details

Industrial Electric Space Heating

THE GENERAL ELECTRIC CO. LTD., MAGNET HOUSE, KINGSWAY, LONDON, W.C.2.

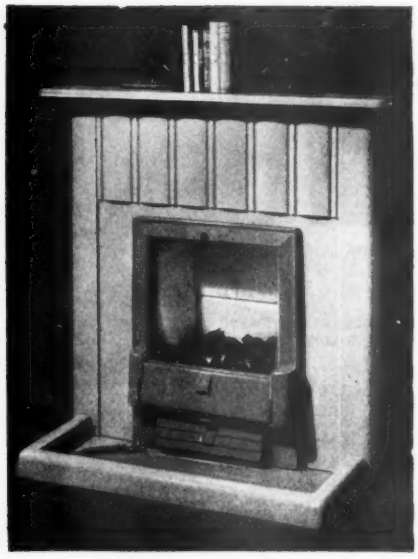
G.513A

'URE' CB3/54

Trade Mark

Back-to-Back Grates

On Ministry List of Recommended Appliances



In the LIVING ROOM a continuous burning Open Fire with Back Boiler

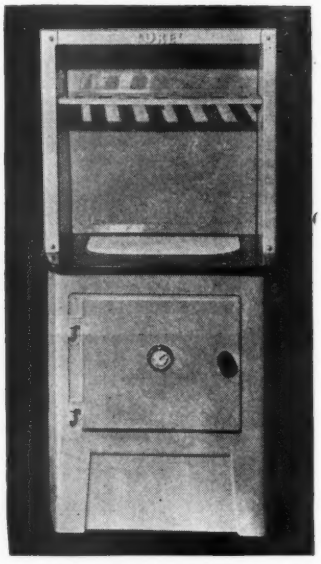
Specify 'URE' and heat 2 rooms with 1 fire

plus ★ COOKING

★ BOILING

★ HOT WATER

The **'URE'** has an Open Fire in the Living Room and a Cooker back-to-back with it in the Kitchen. It heats Living Room and Kitchen. It cooks and provides all hot water requirements. It has a large oven and a rapid boiling hotplate. The fire burns overnight unattended. And all this on about a hundredweight and three-quarters of fuel a week.



In the warm KITCHEN . . . a vitreous enamelled Cooker and rapid Boiling Hotplate

'URE' Grates ensure warm kitchens . . . Living Rooms free from cooking.

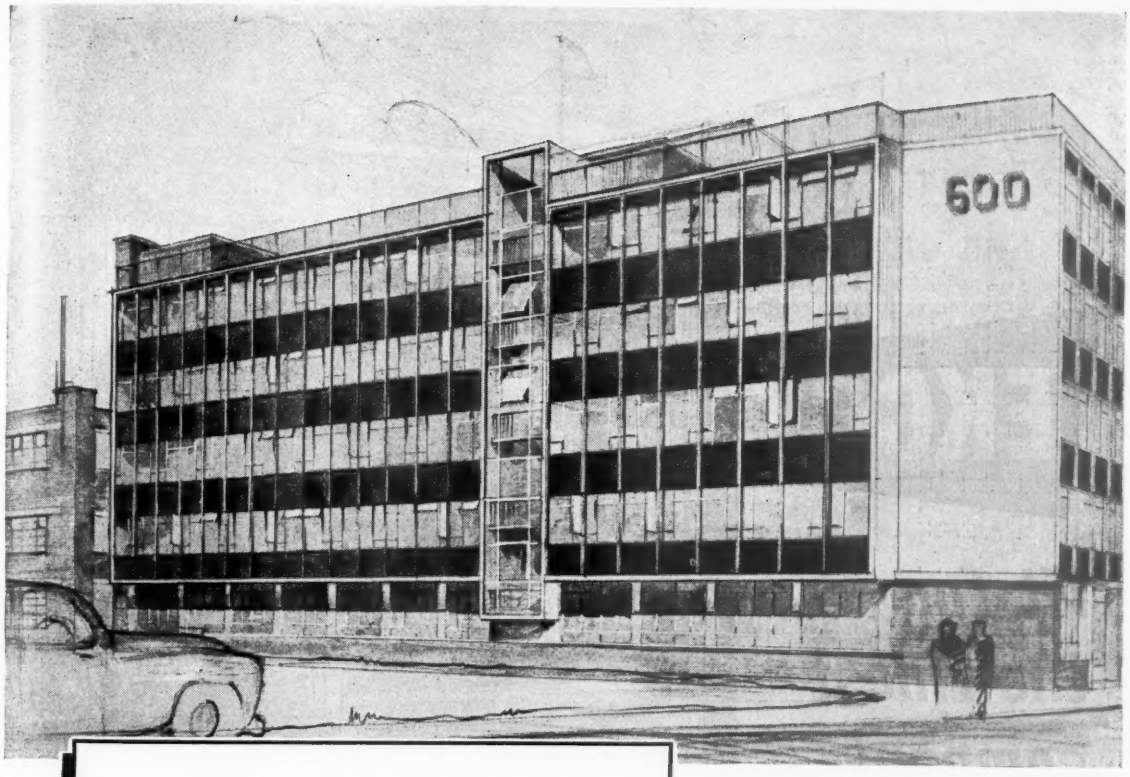
Trade Mark

Allan Ure Limited

Pioneers and largest producers of Back-to-Back Grates

Keppochhill Glasgow N

Telephone : Douglas 2641 *Telegrams : "Baktobak"*



600 GROUP OFFICE BLOCK, WOOD LANE, LONDON, W.12
MAIN CONTRACTORS, KYLE STEWART LTD.

A combination of

ARCHITECTURAL DESIGN AND ENGINEERING SKILL

The design by
H. Fitzroy Robinson, B.A. (Arch.) F.R.I.B.A.
and Hubert H. Bull, L.R.I.B.A. F.I.A.A. & S.,
has been judged typical of the
finest contemporary building design
and was on view at last year's
Exhibition of the Royal Academy of Arts,
Burlington House.

The Reinforcement for
Retaining Walls, Basement, R. C. Frame
and suspended floors designed,
fabricated and fixed by:

T. C. JONES & CO. LTD.

REINFORCEMENT SPECIALISTS

Wood Lane, London, W.12 **Telephone: SHEpherds Bush 2020**
Reinforcement Department **17 Buckingham Palace Gardens, London, S.W.1 Telephone: SLOane 5271**
South Wales Office **Bute Street, Cardiff Telephone: Cardiff 28786**
Works **Shepherds Bush, London · Neasden, Middlesex · Treorchy, Glamorgan**

THE 600 GROUP OF COMPANIES



EKCO

fit for the finest company

EKCO Fluorescent Lighting fittings are designed by specialists. With a wide range of modern diffusers, they are ideally suited for use in shops, offices, theatres, public buildings, schools and in the home. These fittings are constructed only of the finest materials and harmonize discreetly with the best modern interior decorations. They are described fully in the recently published EKCO Lighting Catalogue. Write for your copy today.

Have you a lighting problem?

Then the EKCO Lighting Advisory Service is available to assist you. There is an office in your vicinity. So ask us to send a qualified lighting engineer to discuss your problem on the spot. There is no obligation and the service is entirely free.

EKCO **Lighting Fittings**

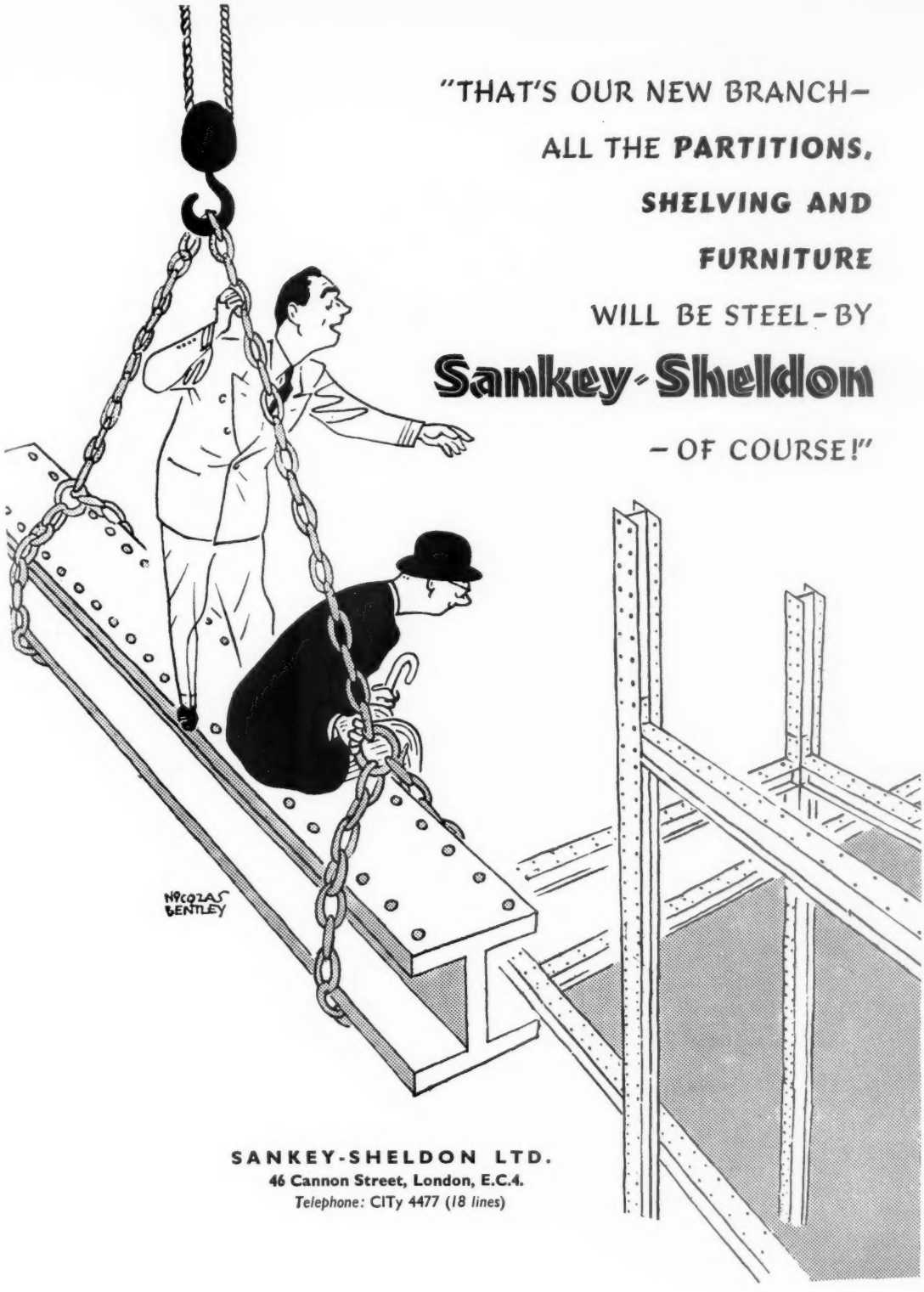
Switch *brightly* to EKCO

EKCO-ENSIGN ELECTRIC LTD., 45 ESSEX STREET, STRAND, LONDON, W.C.2 Tel: CITY 8951

SALES OFFICES, ILLUMINATING ENGINEERING DEPTS., SHOWROOMS AND DEPOTS

SOUTHERN: 45 Essex Street, London, W.C.2. Tel: City 8951
NORTHERN: Blackett St., Fairfield St., Manchester 12. Tel: Ardwick 4661
MIDLANDS: 68 Caroline Street, Birmingham 3. Tel. Central 2997
E. MIDLANDS: 27 High Pavement, Nottingham. Tel: N'ham 53183/4
SCOTTISH: 26 India Street, Glasgow, C.2. Tel: Central 2012
SOUTH WALES: 50 Bridge Street, Cardiff. Tel: Cardiff 33803/4

EL39


"THAT'S OUR NEW BRANCH–
ALL THE PARTITIONS,
SHELVING AND
FURNITURE
WILL BE STEEL–BY
Sankey-Sheldon
–OF COURSE!"
NICOLAS BENTLEY
SANKEY-SHELDON LTD.
46 Cannon Street, London, E.C.4.
Telephone: CITy 4477 (18 lines)

In order to meet the increasing demand...

another factory is being built for

THERMALITE



Strategically placed to serve the Midlands and the North the new factory will increase output and speed site delivery to all parts of Great Britain.

The steadily increasing demand for Thermalite-Ytong Insulating Building Blocks both for industrial buildings and for domestic architecture is a direct confirmation of the established position that this unique material has achieved.

THERMALITE-YTONG

Load bearing insulating building blocks

Thermal insulation
Load bearing
High speed of laying
Light weight
Workability
Direct fixing
Fire resistance
Reduces the risk of condensation

For further details and technical data apply to

THERMALITE LIMITED
Shepherds House Lane, Earley, Reading, Berkshire. Telephone: Reading 62694.

NOW! ONE CLOSER SUITS ALL DOORS!

New Yale Door Closer No. 66

At last here's a door closer that simplifies the stocking problem. The new Yale Door Closer No. 66 is simply adjusted to suit various weights of doors.

SPECIAL FEATURES

- One size only—to suit various weights of doors
- Concealed fixing
- Easily adjustable
- Concealed hold-open device (Optional extra)
- 'O' Ring seals—Oil leakage defeated
- 'Snap On' Main Arm Coupling

This is the closer for bigger, easier sales



AVAILABLE IN THE FOLLOWING VARIATIONS:—

Standard Closer . . . . . List No. 66
Standard Closer fitted with hold-open device . .List No. 1166
Parallel Arm (hand required must be specified) List No. PA66LH PA66RH
Parallel Arm fitted with hold-open device List No. PA1166LH
(hand required must be specified) PA1166RH
Standard Closer complete with corner bracket List No. CB66
Standard Closer complete with soffit bracket . List No. SB66
Standard Closer fitted with hold-open device and complete with corner bracket List No. CB1166
Standard Closer fitted with hold-open device and complete with soffit bracket List No. SB1166

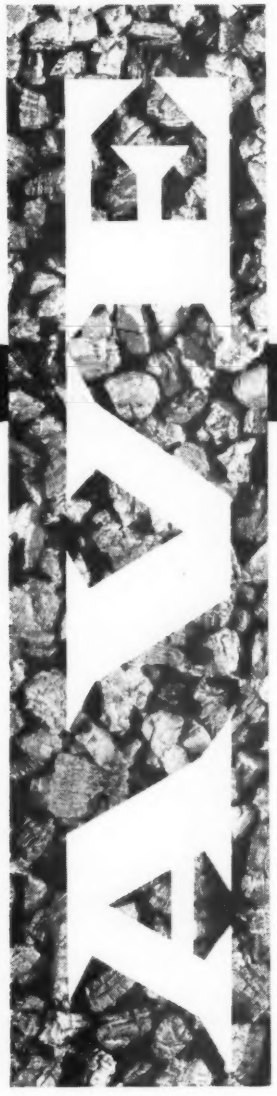
STANDARD FINISH Gold Bronze. OTHER FINISHES AVAILABLE Silver Birch, Copper Bronze, Chromium Plated, Satin Chromium Plated

Where there's a door there's a need for YALE

REGISTERED TRADE MARK

DOOR CLOSERS • MASTER KEYED SUITES • FURNITURE • LOCKS

The Yale & Towne Manufacturing Company, Willenhall, Staffs. Telephone Willenhall 145
London Office: Broad Street Place, E.C.2. Telephone London Wall 4952



good thermal insulation calls for VERMICULITE

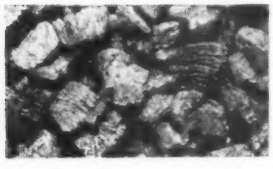
No other material gives such good thermal insulation efficiency —at the same cost—as vermiculite. In lightweight concrete and plaster, or as a loosefill, vermiculite is being used more and more widely in modern building construction.

By constant research into the development of vermiculite and its application to modern building methods, the A.V.E. is making an important contribution to the advancement of general building design and construction.

Results have proved that this permanent, fire-proof, lightweight aggregate provides better thermal insulation efficiency—for no extra cost—than any other material.

Specify one of these branded A.V.E. *vermiculites.*

ASSOCIATION OF AVE VERMICULITE EXFOLIATORS



Full technical information from

J. M. & J. Bartlett Ltd
Lombard House
Warwick Street
NEWCASTLE UPON TYNE 2

Cape Building Products Ltd
114–116 Park Street
LONDON W1
Cowley Bridge Works
UXBRIDGE Middlesex

A. R. & W. Cleaver Ltd
Advance Works
Wood Street
NORTHAMPTON

Dupre Vermiculite Ltd
39–41 New Broad Street
LONDON EC2
23b Broadwater Road
WELWYN GARDEN CITY Herts

The Iron & Marble Company Ltd
33–35 Victoria Street
BRISTOL

William Kenyon & Sons (MetaMica) Ltd
DUKINFIELD Cheshire
140 West George Street GLASGOW C2
50 Bloomsbury Street
Bedford Square LONDON WC1

L. Slack & Son Ltd
Courthouse Street
Pontypridd
SOUTH WALES

Issued in the interest of better insulation by the ***Association of Vermiculite Exfoliators*** *51-55 Strand London WC2*



TOP OF THE CLASS

By Appointment to Her Majesty The Queen Manufacturers of Paint

"SUPERLATIVE" The Best Gloss Paint in the World

The Master Painter has no hesitation in awarding top place to "Superlative" for high-gloss perfection and durability. Wherever great projects are planned, it is more than likely that "Superlative" will be specified.

"SUPERLATIVE" Eggshell Finish

For all interiors where restful as well as decorative surfaces are essential—hospitals, clinics, schools, cinemas and so on—"Superlative" EGGSHELL FINISH takes first place. Throughout a long life it will triumphantly survive regular washing—a most important factor in reducing maintenance costs to a minimum.

"MURISAN" Latex Emulsion Paint

For rapid application over large wall areas, "Murisan" LATEX EMULSION PAINT leads in its class. It can be second-coated within an hour and dries with an attractive, long-enduring finish.

PAINTING ADVISORY SERVICE

For expert advice on correct coatings for surfaces and conditions involved, do not hesitate to consult the Painting Advisory Service of British Paints Limited at the address most convenient to you.

HOME DEPOTS: Aberdeen, Accrington, Barnsley, Belfast, Bilston, Birmingham, Blackpool, Bournemouth, Bradford, Bristol, Cardiff, Carlisle, Chesterfield, Falmouth, Glasgow, Halifax, Hanley, Hull, Leeds, Leicester, Leith, Liverpool, Manchester, Middlesbrough, Nelson, Northampton, Norwich, Nottingham, Plymouth, Preston, Reading, Rhyl, Sheffield, Shrewsbury, Southampton, Swansea. Wakefield, Wrexham, Worksop.

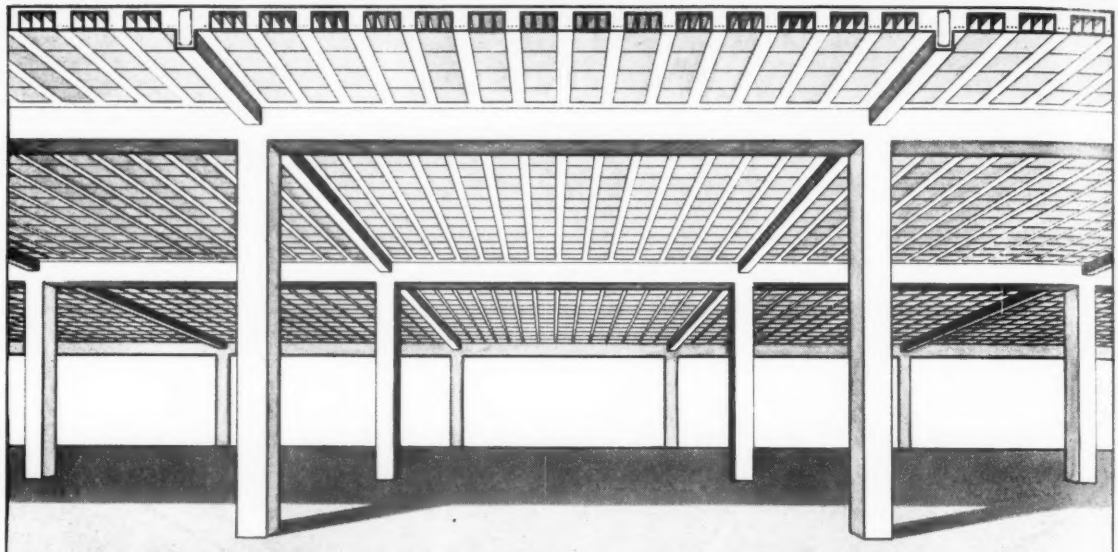
OVERSEAS FACTORIES: Sydney, Adelaide, Toronto, Durban, Cape Town, Calcutta, Trinidad, New York, Arklow.

✻ *These are three of a comprehensive range of fine paints by:* **BRITISH PAINTS LIMITED**

PORTLAND ROAD, NEWCASTLE UPON TYNE, 2 · CREWE HOUSE, CURZON STREET, LONDON, W.1

Our world-wide service is at your disposal for the asking

BPL/D.74



KLEINE FLOORS & R.C. FRAMES

by THE KLEINE CO. LTD.

Specialists in reinforced concrete since 1905
and holders of the original patents for Hollow Tile Floors

9-13 GEORGE STREET, MANCHESTER SQUARE, LONDON, W.1 : WELbeck 9131 and at Birmingham, Manchester, Newcastle, Bristol, Southampton & Glasgow

---



PRESENTING

UNION KNOBSETS

It is with considerable and justified pride that we present these UNION Knobsets, and we hope that you, the Architects and Builders, to whom this advertisement is addressed, will be able to make use of them, not only in new buildings but when renovating older property of all kinds. The special features which they offer in comparison with the conventional locks and furniture include ease of fixing and simplicity and lightness of operation. We hope also that you will find the external appearance suitably pleasing, as well as being modern. The full description of them and their many advantages are described in booklet 533, which can be obtained on application.

Though supplies are obtainable only through your usual Builders' Hardware Merchants, our expert advice is always at your disposal.



An illustrated brochure containing full details of UNION *Knobsets is now available. We invite you to write now for your free copy.*

JOSIAH PARKES & SONS LTD. UNION

UNION WORKS · WILLENHALL · STAFFS · ENGLAND

ENGLISH OWNED AND CONTROLLED

BUSH HOUSE, LONDON · JOHANNESBURG, SOUTH AFRICA.

EST. 1840

541/57

the perfect combination for insulation and protection



above **ZYLEX**
Slaters Felt

As a secondary roof under tiles or slates, Zylex prevents damage due to roof defects and at the same time substantially reduces heat loss. Because of its exceptionally high quality, Zylex performs both functions supremely well. Available Reinforced for open rafters, Standard for boarded roofs.

below **ASTOS**
100% Permanent Dampcourse

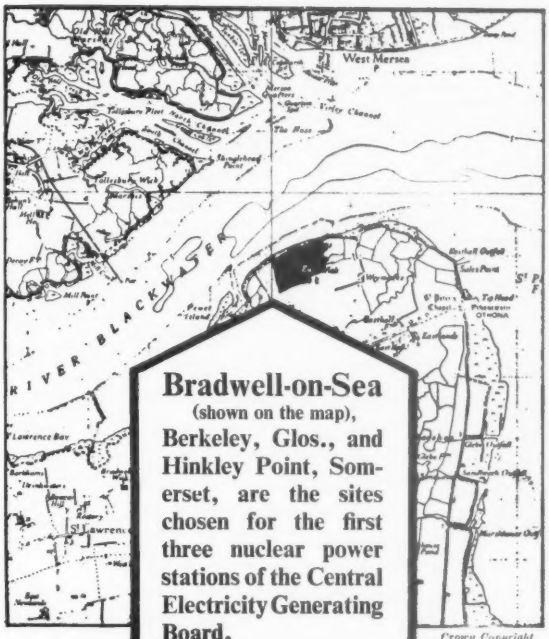
Astos, the original asbestos/bitumen dampcourse, has been widely specified for many years because of its proven ability to withstand foundation settlement and its ease of identification on site. More than meets the requirements of B.S. No. 743 of 1951. Standard or lead-lined.

RUBEROID

Z48f

THE RUBEROID COMPANY LIMITED,
524 COMMONWEALTH HOUSE,
1-19 NEW OXFORD STREET, LONDON, W.C.1.

Electricity from Nuclear Energy



Bradwell-on-Sea (shown on the map), **Berkeley, Glos., and Hinkley Point, Somerset, are the sites chosen for the first three nuclear power stations of the Central Electricity Generating Board.**

The growing need for power

As Britain's industrial efficiency increases, so does the need for power. The demand for power doubles every ten years. The Electricity Supply Industry has already met the doubled demand since 1st April, 1948, and has made provision for a similar expansion in the next decade.

Work on the first two nuclear power stations, at Bradwell in Essex and Berkeley in Gloucestershire, was started in January, 1957, and on the third in England, at Hinkley Point in Somerset, last September. These three stations will have an aggregate of some 850,000 kilowatts.

The Government's revised nuclear power station programme provides for enough nuclear power stations to be completed in the next decade to provide 5/6 million kilowatts of generating capacity. Provision is also being made for the construction of new main transmission lines and the extension of the distribution network.

As the demand for power grows, nuclear energy will become more and more important as a source of electric power, upon which the economic future of the country so largely depends.

THE CENTRAL ELECTRICITY GENERATING BOARD

THE BUILDING CENTRE

The function of the Building Centre is to provide facilities for manufacturers to exhibit objects and materials used in connection with the erection and equipment of buildings, lighting, heating, decoration, etc., so that the Architect and Architectural Student can see in one building examples of the most up-to-date products from every branch of the manufacturing world connected with building.

It is a non-profit distributing organisation and exists for the benefit of the Architectural and Surveying Professions, the Building Industry generally and the Public interested in Building.

It maintains a highly organised technical information service which is available free to all concerned, for use by personal interview, correspondence or telephone.

9.30 a.m. to 5 p.m.
(Saturdays 1 p.m.)

Store Street
LONDON, W.C.1.
Museum 5400 (10 lines)

NORTHERN POLYTECHNIC

Holloway Road, London, N.7

DAY SCHOOL OF ARCHITECTURE

The Diploma in Architecture, which is awarded on the successful completion of the five years' full time course and subsequent passing of the examination in Professional Practice, qualifies students for exemption from the Final Examination for Associateship of the Royal Institute of British Architects. The Diploma is also accepted as a qualification for registration under the Architects (Registration) Acts, 1931–38.

EVENING SCHOOL OF ARCHITECTURE

The five years' course is recognised by the R.I.B.A. for exemption from the Intermediate Examination. A course is also available in preparation for the Final Examination.

The Department of Architecture, Surveying and Building provides full-time and evening courses for those who desire to become Quantity Surveyors or to enter the higher branches of the Building Industry. The full time courses in Surveying are approved by the Royal Institution of Chartered Surveyors.

Particulars of fees and a prospectus may be obtained on application to the Head of the Department,
Mr. T. E. Scott, C.B.E., F.R.I.B.A.

MODELS

ESTAB. 1883

BY

John B. THORP

98 GRAY'S INN ROAD, W.C.1

FOR

TOWN PLANNING
PUBLIC BUILDINGS
ESTATES and INTERIORS

Telephone: HOLBORN 1011

FOUNDED 1882

The Institute of Clerks of Works of Great Britain (Inc.)

NORTHERN IRELAND CHAPTER
7 COLLEGE SQUARE NORTH, BELFAST. Hon. Sec.: A. McBRIDE, 17 Kylmore Park, Belfast.

NORTHERN CHAPTER
4 WOODHOUSE SQ., LEEDS, 1. Hon. Sec.: J. HIRST, 9 Willowfield Crescent, Bradford 2.

SCOTTISH CHAPTER Royal Incorporation of Architects in Scotland, 15 RUTLAND SQUARE, EDINBURGH, 1. Hon. Sec.: R. G. JACK, 61 Drumbrae South, Edinburgh.

NORTH WESTERN CHAPTER Manchester Society of Architects, 16 ST. MARY'S PARSONAGE, MANCHESTER. Hon. Sec.: W. H. SARGEANT, 232 Tunstall Road, Knypersley, Biddulph, Stoke-on-Trent, Staffs.

MIDLAND CHAPTER Chamber of Commerce, 95 NEW STREET, BIRMINGHAM, 2. Hon. Sec.: L. D. PINFOLD, Glentor, Birmingham Road, Bacon's End, Coleshill, Nr. Birmingham.

ARCHITECTS, SURVEYORS, ENGINEERS requiring Clerks of Works are invited to apply to:
The Secretary,
W. J. GIBBINS, 5 BROUGHTON ROAD,
THORNTON HEATH, SURREY
Phone: THO 1238

Examinations will be held at the Royal Institute of British Architects, 66 Portland Place, W.1. Examinations are also being held at 15 Rutland Square, Edinburgh, and the College of Technology, Belfast, Northern Ireland.

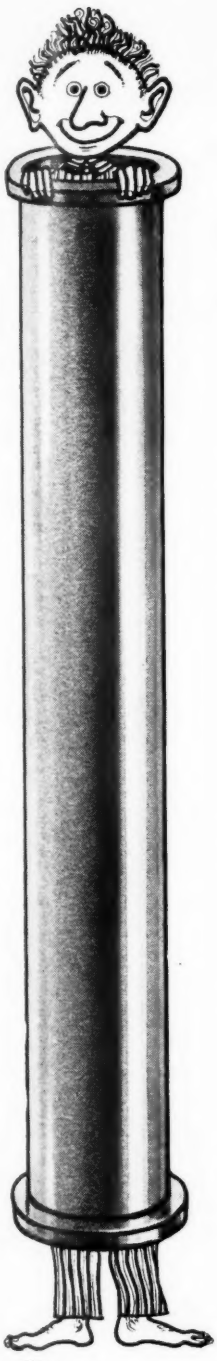
THERMAL INSULATION OF INDUSTRIAL BUILDINGS

by reducing heat losses due to conduction, convection and radiation is the special study of

HORSLEY, SMITH AND CO. (BUILDING INSULATION) LIMITED

We offer in the first place a specialised advisory service, covering both methods and materials, to those whose task it is either to plan new buildings which will be economical to warm or to reduce the waste of heat in existing buildings. When plans have been approved we are able both to supply the materials and do the work. For the services of a technical representative please write to:—

HORSLEY, SMITH & COMPANY (BUILDING INSULATION) LIMITED
Manchester Road, Astley, near Manchester. *Telephone: Atherton 1394*



MEDICAL GASES FOR MEDICAL CASES

The most efficient and economical method of supplying medical gases throughout a hospital is by a pipeline distribution system. Pipes can readily be installed in walls while the building is in progress, and all points in the hospital, however remote, can be supplied with gas at adequate pressure. To provide a complete service, British Oxygen also undertake the installation of vacuum lines complete with vacuum pump, reservoir and automatic control gear.

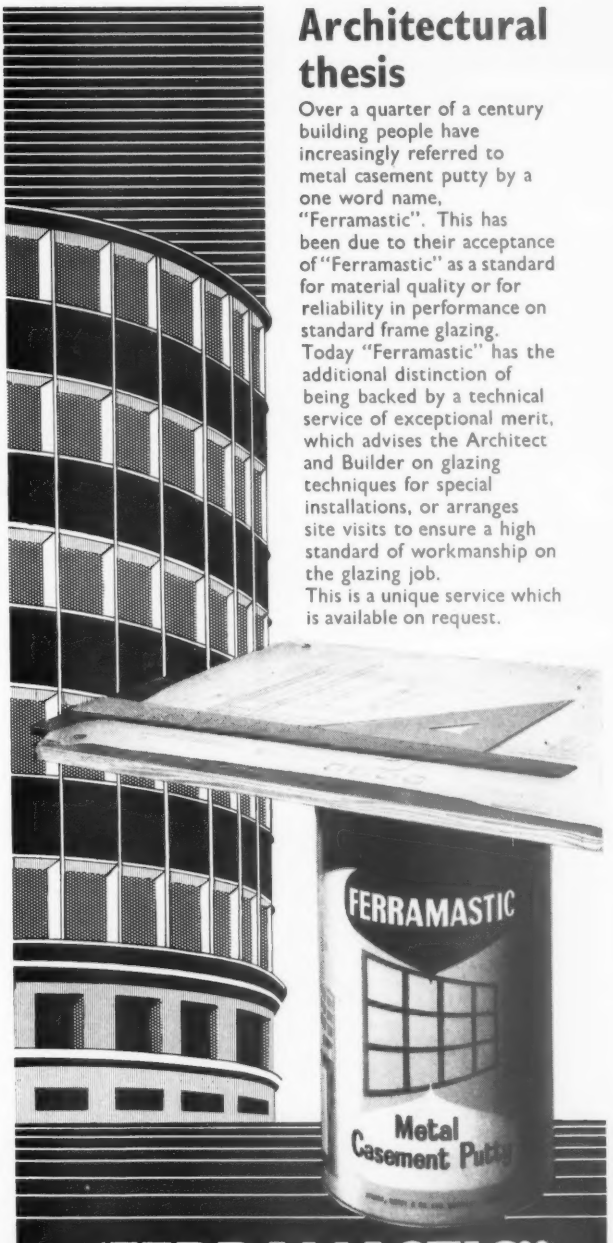
British Oxygen has a nation-wide organisation staffed by skilled engineers for installing pipeline systems in hospitals, clinics and surgeries.
Cost of installation varies according to size and various other factors. The Company will gladly arrange, without obligation, for a representative to attend for preliminary discussion or to make a survey for the purpose of submitting a firm estimate.

BOC **BRITISH OXYGEN**

BRITISH OXYGEN GASES LTD., MEDICAL DIVISION
GREAT WEST ROAD, BRENTFORD, MIDDLESEX

Architectural thesis

Over a quarter of a century building people have increasingly referred to metal casement putty by a one word name, "Ferramastic". This has been due to their acceptance of "Ferramastic" as a standard for material quality or for reliability in performance on standard frame glazing.
Today "Ferramastic" has the additional distinction of being backed by a technical service of exceptional merit, which advises the Architect and Builder on glazing techniques for special installations, or arranges site visits to ensure a high standard of workmanship on the glazing job.
This is a unique service which is available on request.

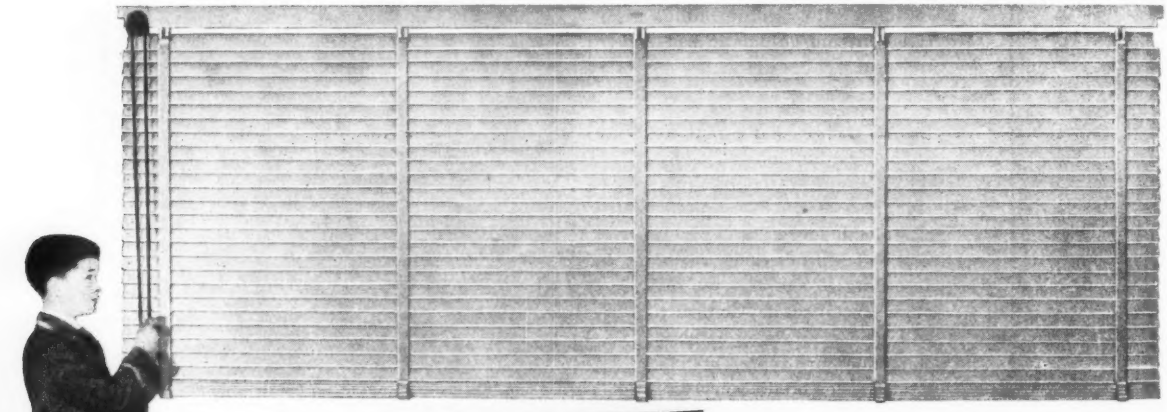


"FERRAMASTIC"
Metal Casement Putty
Amazing for Glazing
Manufactured by:—
STORRY WITTY & CO. LTD., BEVERLEY, YORKS
Telephone: Beverley 81201/2 Telegrams: "Stority, Beverley"

FOSALSIL

the supreme insulating brick for boiler flue linings

MOLER PRODUCTS LTD. COLCHESTER · ESSEX





The SUNMASTER HEAVY DUTY VENETIAN BLIND

specially designed for schools, factories and offices

Even a child can safely operate it! *Points of Note:*— ● No unsightly trailing cords, or cords to keep replacing ● No complicated cord locks ● All operations, rise, fall and slat tilting are executed by one endless cord ● Blind raised by multi flexible plastic coated wire, one for each web ● No sagging bottom rails. Blind keeps perfectly straight ● Only one blind need be fitted where 2 or 3 ordinary blinds would be recommended ● Maintenance negligible.

"*Sunmaster*" blinds have been recently fitted in the following schools. LONG SUTTON S.M. SCHOOL. *Architect:* Architects Co-Partnership in association with The County Architect, Holland County. BRYANSTON SCIENCE BUILDING. *Architect:* Architects Co-Partnership. KING HENRY VIII SCHOOL, COVENTRY. *Architect:* W. S. Hattrell & Partners.

For further details of this outstanding Venetian Blind, write to:
LONDON BLINDS LIMITED · MELBOURNE SQUARE LONDON S.W.9 PHONE REL. 4360



PLASTER
WON'T COME OFF, EVER!

Permanent, easy-to-use PLASTAWELD bonds gypsum plasters to any sound clean surface — saves hours of expensive labour by cutting out hacking, stippling or blinding with sand.

PLASTAWELD—the bonding fluid that's brushed or sprayed on to bricks, engineering bricks, smooth shuttered concrete, tiles and even asbestos—is used on Hospitals, Factories, Military and Ministry of Works establishments, and major projects everywhere. No hacking—no noise, dust or dirt—hours of expensive labour saved.

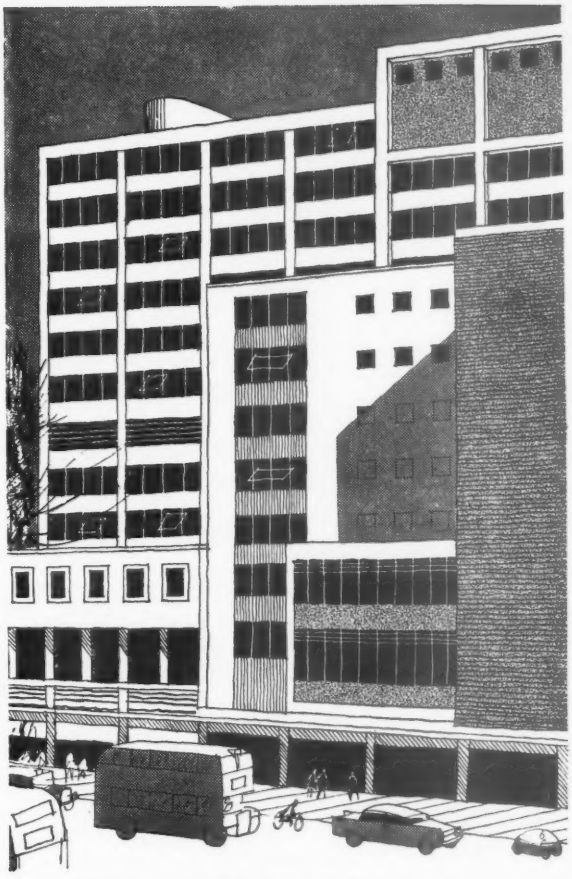
plastaweld

PERMANENT BONDING FLUID

Another **MANGERS** product

Problems ? Write or 'phone our Technical Department L3

57d Kingsland High Street, London E.8 (CLissold 5307)



The colour of things to come

The architecture of today and tomorrow has its needs well provided for by John Hall & Sons of Bristol, makers of a complete range of paint finishes headed by the famous Brolac and Murac P.E.P. For these paints are the paints of today and tomorrow. New techniques of manufacture keep them ahead of all new developments, so that Brolac Gloss Enamel Finish still has no equal as a hard-wearing, weatherproof finish of exceptional beauty, while Murac P.E.P. plastic emulsion paint and Murac Matt Oil Finish are used for high quality wall and ceiling decoration throughout the country. The question of colour range is constantly under review to keep abreast of architectural progress, and architects have at their command a highly skilled Technical and Colour Advisory Service by simply contacting John Hall & Sons (Bristol & London) Ltd., Hengrove, Bristol 4.

BROLAC AND MURAC P-E-P

CLOAKROOM PROBLEM SOLVED IN FACTORIES, SCHOOLS, HOSPITALS, SWIMMING BATHS, etc.

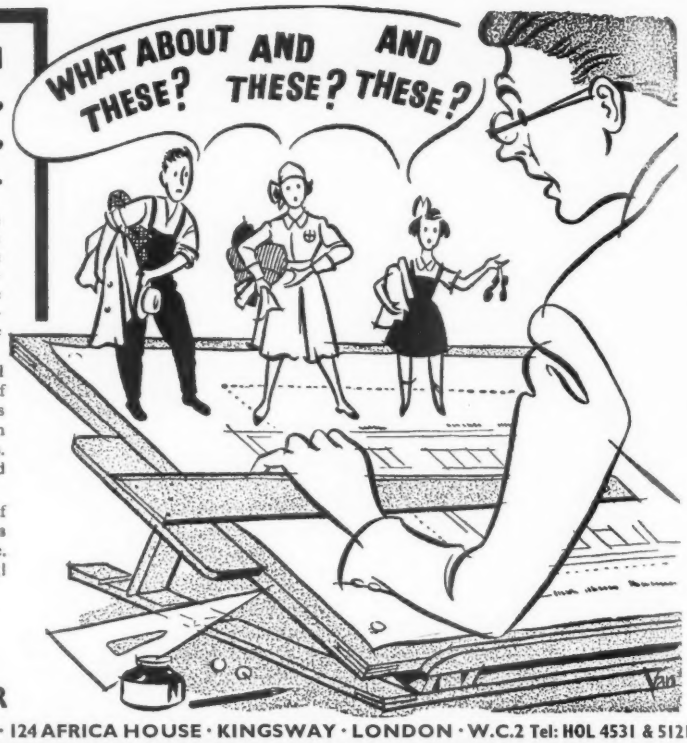


Sieber Hangers accommodate complete wearing apparel, yet occupy only *half the space* required by lockers. They can be readily installed in new or existing buildings, in single or double tiers. And where space limitations make large, separate cloakrooms impossible, small sections of five or more can be erected.

Consider the advantages also, to health and hygiene. Designed to ensure neat hanging of garments, these all-steel hangers allow for the maximum circulation of air — unobtainable in lockers. Damp clothing is thoroughly dried *and aired.*



Cost? Only *one quarter* that of lockers. Send for full particulars of the Sieber Free Planning Service. No cost or obligation on your part!

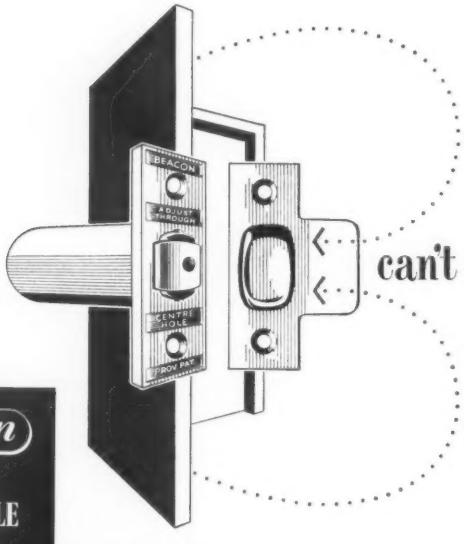


SIEBER

ALL-IN-ONE HANGER

JAMES SIEBER EQUIPMENT CO. LTD. · 124 AFRICA HOUSE · KINGSWAY · LONDON · W.C.2 Tel: HOL 4531 & 5121

This catch can't miss

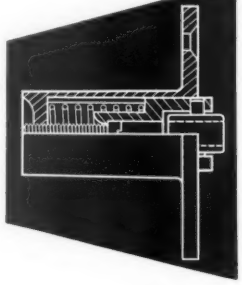


A FRONT adjustable roller catch with the qualities of neatness and efficiency in operation. Tension of catch easily adjusted after fitting with small screwdriver through hole in centre of roller.

Zinc diecast construction and finished Florentine Bronzed or Bright Lacquered. Faceplate Dimensions are $2\frac{1}{4}'' \times \frac{1}{2}''$.

Beacon

FRONT ADJUSTABLE ROLLER CATCH



London Office:-
61/62, BROAD STREET AVENUE, BLOMFIELD ST., LONDON E.C.2.
Tel: LONDON WALL 2181
'Grams: Beaconium Ave London

Smith and Davis Limited,
22 Beacon Works · Wednesbury · Staffs.

Tel: Wednesbury 0721-5.
'Grams: 'Beaconite', Wednesbury.



THEN *Through hundreds of years, buildings, whether Greek, Roman, Gothic, Elizabethan or Renaissance in style, have stood the test of time by the very massiveness of their construction. These monolithic structures, many of them architectural gems, are still stable and free from cracks due to the ingenuity of the builders and the sheer weight of the fabric itself.*

NOW – **EXPANDITE**

Joint-Fillers & Sealers for Constructional "JOINTS-THAT-MOVE"

With the inevitable march of time, the search for new materials and methods and the increasing shortage of labour and cost of construction, modern buildings are much less massive and employ lighter components than was previously thought possible.
This change in building techniques has raised new problems with regard to movement of the fabric. To-day the Architect or Engineer is well served by jointing materials which are 'elastic' and which permit functional joints to be incorporated in a structure with no fear of cracks or bulges occurring.

OTHER EXPANDITE PRODUCTS INCLUDE

SEELASTIK* For sealing cracks, and joints in walls and round doors and windows.
SEEL-A-STRIP The strip sealer for joints which are under continuous pressure.
MULSEAL* For waterproofing roofs, walls, gutters and floor slabs.
WATERSTOPS In rubber or PVC for all types of joints where water must be excluded.
ASBESTUMEN* For sealing joints in roofs, gutters, down pipes and around skylights.
AEROLASTIC* A fuel resistant sealer for floors in garages, factories and for airfields.
PLASTIJOINT For all vertical joints in walls in buildings and water retaining structures.

** Registered Trade Marks*

EXPANDITE LIMITED

CHASE ROAD · LONDON · N.W.10.
Telephone: ELGar 4321 (10 lines)

ASSOCIATES AND DISTRIBUTORS THROUGHOUT THE WORLD



The use, in complete safety and with great skill, of all the most up to date methods of wood-boring pest control —that's the expert treatment available when you consult L.F.C.
Many years experience in the elimination of pests in structural woodwork enable our highly skilled staff to give any advice or assistance you require.

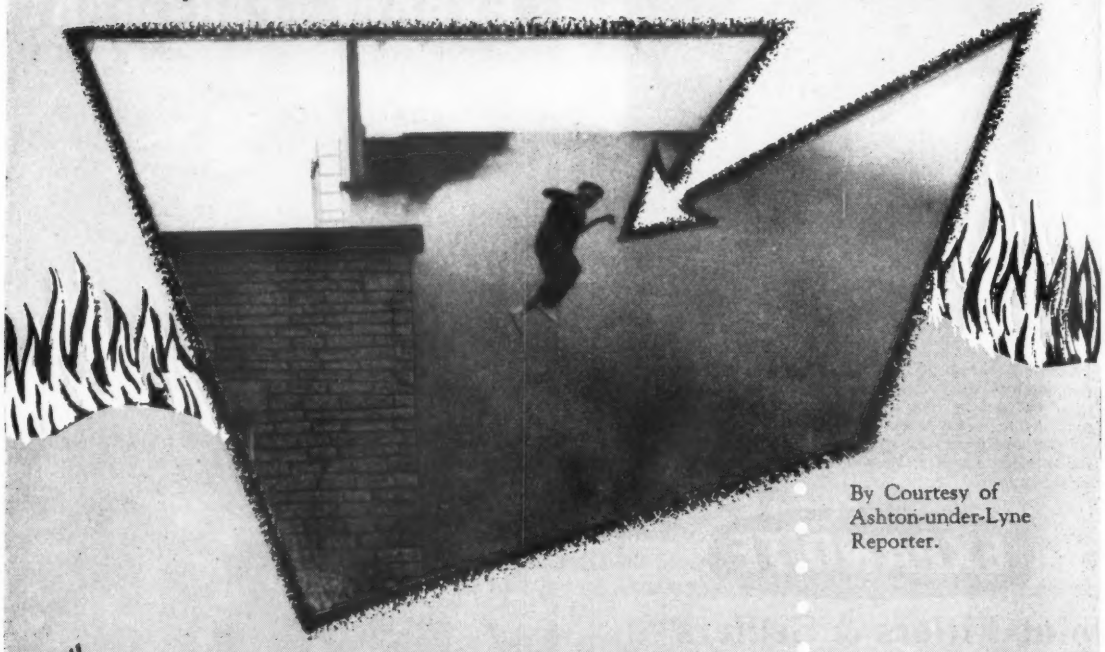
L.F.C.

the LONDON FUMIGATION CO LTD

Experts in all methods of insect pest control

LONDON	Marlow House, Lloyd's Avenue, London E.C.3.	ROYal 7077/8/9
MANCHESTER	29 Minshull Street, Manchester 1	CENtral 0842
BRISTOL	181 Easton Road, Bristol 5	Bristol 58521

"Why was this necessary."



By Courtesy of
Ashton-under-Lyne
Reporter.

"Because he had no other way of escape."

"MURILITE" Pre-mixed Perlite Plaster, which has attained a Grade A (6 hours) Fire Protection Rating, could have resisted the spread of flame for a long enough period to have permitted him to use the normal exits.

Complete details of the test made in accordance with the British Standard definitions No. 476:1953 are contained in the F.R.O.S.I report No. 621:1955.

"Murilite"
REGD. TRADE MARK
PRE-MIXED
PERLITE PLASTER

GYPSUM PLASTER & CEMENT

Write for detailed brochure to

CAFFERATA . NEWARK

Printed in Great Britain by Unwin Brothers, Ltd., Woking and London
All communications regarding Advertisements in this Journal should be addressed to the Advertisement Manager, R.I.B.A., 66 Portland Place, London, W.1
Telephone: Langham 2271

New from Falkirk

THE FALCON 10G

HEAVY DUTY GAS RANGE



*** Cooks supremely well and efficiently**

*** Saves labour * Is easy to operate**

*** Stands up to rough treatment**

Everything possible has been done to make the Falcon 10G easy to run and maintain. The result is an efficient, labour-saving range of good appearance—proof of Falkirk's leadership in this field.

For a fully illustrated Information Leaflet on the Falcon 10G, write to :

THE FALKIRK IRON COMPANY LIMITED

18 Dering Street, Hanover Square, London, W.1

Proprietors: Allied Ironfounders Ltd.
Makers of cookers, boilers, fires and baths.

Build faster with LAINGWALL



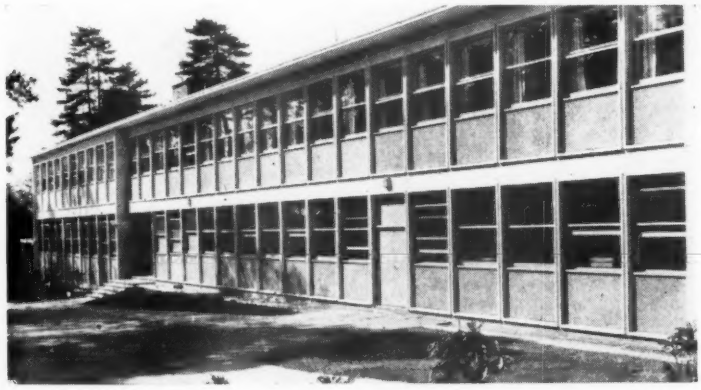
A SERVICE TO ARCHITECTS

Many architects called on to design industrial and other specialised buildings—often in regular succession, and always wanted urgently—have long felt the need for a system of permanent construction making full use of mechanical aids, embodying some degree of prefabrication, yet retaining adequate flexibility in design.

The LAINGWALL system of building has been expressly evolved by the Development Division of John Laing and Son Limited to meet this need. Key feature of the system—already employed on a number of projects throughout Britain—is its use of precast, storey-height wall units of modular widths (embodying cladding panel and window frame) lifted into place by mechanical means.

Construction is thus mainly 'dry', effecting important savings in time and skilled labour on site, and a high standard of quality control of concrete casting and finishing is ensured under factory supervision. Standard precast wall units can be supplied from stock or cast to architects' specifications, and there is a variety of external and internal finishes.

The LAINGWALL system is available to architects for incorporation within their own designs. It is the result of years of research, backed by extensive experience of modern construction materials, new construction techniques and practical knowledge of building cost economies. The LAINGWALL system is offered as a service to architects—assuring them and their clients of an early start, continuous progress on site and speedy completion.



LAING

JOHN LAING AND SON LIMITED

Building and Civil Engineering Contractors

GREAT BRITAIN · CANADA
UNION OF SOUTH AFRICA · RHODESIA

